#### II – NEEDS ASSESSMENT

- B. The Arkansas Five Year Needs Assessment Document
- 1. The process for conducting the needs assessment is described below.
- a. The Goals and Vision of the Arkansas Needs Assessment were:

#### Goals: to assess the need for enhancements to:

- 1) Preventive and primary care services for pregnant women, mothers and infants up to age one;
- 2) Preventive and primary care services for children;
- 3) Services for Children with Special Health Care Needs; and
- 4) Preventive and primary services for women from youth to perimenopausal ages\*

\*This goal for the health of women was added this year to the overall purposes for the Arkansas Maternal and Child Health Program. It expands the program intent beyond the usual purposes of addressing the health of pregnant women and those rearing young families to include women from youth to perimenopausal ages.

#### Vision: to assure the conditions in which Arkansas will:

Improve the outcomes and strengthen partnerships through pursuing the 10 steps including engaging stakeholders, assessing needs and identifying desired outcomes, examining strengths and capacity, selecting priorities, seeking resources, setting performance objectives, developing action plans, allocating resources, monitoring project for impact on outcomes, and reporting back to stakeholders.

#### b. Leadership of the Needs Assessment Process

The leadership of the Arkansas Needs Assessment was vested in a core leadership team called the Maternal Child Health Planning Team (MCHPT) composed of the Director of the Children with Special Health Care Needs Program in DHS; the Chief, Deputy Chief, and Associate Chief of the Arkansas department of Health (ADH) Family Health Branch; its Section Chiefs for Child and Adolescent Health, Women's Health, and Health Connections; the MCH Epidemiologist; and the leaders of a few intraagency programs (Hometown Health Initiatives, Injury prevention, and others). The MCHPT reached out to sister Branches of the Center for Health Advancement, sister Centers in ADH, especially Health Statistics for its data, Health Protection for its plans and purposes related to developing a trauma system, and the Center for Local Public Health Services to assure that the envisioned services would be provided in local health units and by Hometown Health Coalitions in counties throughout the state.

- c. The needs assessment methodology included ongoing and new steps by the MCH Planning Team as follows:
- 1) On an annual cycle, the MCHPT (See inner circles of Figure 2 of the BG Guidance) collects: a) health status and health system measures required for the Block Grant annual report each year for the past

5 years, to determine whether each one is improving, remaining the same, or getting worse; b) encounter data showing the numbers and trends for clients served in ADH MCH programs to better balance the application of resources according to measures and priorities; and c) agency personnel and budget data to assess the balance of staff deployment among important preventive services. The Team reviews this information annually with the ADH Director to determine: a) progress of performance measures towards benchmarks: a) the appropriateness of program balance and achievements, and b) the assignment of resources. The CSHCN Director reviews that Program's information with its leadership in the Division of Developmental Disabilities Services and the Department of Human Services.

- 2) For this five-year cycle, the MCHP Team (See outer circle in Figure 2 of the BG Guidance): a) summarized and prepared these results by each of the four target population groups to be presented to selected stakeholders; b) obtained information from major stakeholders and collaborators regarding their priorities for provision of health care to women and children in Arkansas; c) Examined strengths, needs and capacities as described in Sections 3 and 4; d) Selected and prioritized performance measures, after reviewing the above information; e) determined with our collaborators, a set of best-practice activities most suited to achieve these performance measures; f) documented these needs and priorities, and proposed activities for feedback to and review by the involved stakeholders; and g) eventually will follow all further steps in the outer cycle of Figure 2.
- d. Methods for assessing the MCH Populations (four in this report) included qualitative and quantitative assessments by the MCHPT as follows:

# 1) For pregnant women, mothers and infants:

The basic quantitative population data sources for this group were annual birth and infant death records, while quantitative estimates and qualitative information were obtained from PRAMS and BRFSS surveys and literature reviews. The latest available Arkansas health status rates were compared to US rates and HP 2010 objectives. Five year trends on these rates were assessed. Extensive use of these materials is reflected in the "White Paper to Reduce Infant Deaths in Arkansas," and its companion Background Paper, (Attachments C and D). These documents in draft form were shared with multiple networks of stakeholders and their related interests discussed extensively. New compilations of PRAMS survey data from the aggregated surveys of 2000 through 2007 were analyzed in detail. These new analyses were shared as were the White and Background papers on infant mortality. As the research evaluation of the ANGELS program unfolded, some findings and conclusions were also included in this needs assessment.

# 2) For children:

The basic quantitative population data sources for this group were annual intercensal population estimates obtained from the Institute for Economic Advancement at the Univ. of Arkansas at Little Rock;

birth and infant death certificates, childhood death certificate ICD9 classifications, hospital discharge records compiled by the ADH Health Statistics Branch; unintentional injury data obtained from the ADH Health Statistics Branch; Medicaid listings of children enrolled and served; and other important data on children collected by the National Survey of Children's Health, the National Survey on the Health of Children with Special Health Care Needs, and the National Immunization Survey. Qualitative data were also available from many of these national surveys. Especially, the Natural Wonders Partnership Council conducted an extensive effort to assess the needs of children in Arkansas, and published the results in conjunction with the Arkansas Center for Health Improvement.

# 3) For children with special health care needs:

The quantitative data sources for this group included Medicaid data for recipients in the Supplemental Security Income (SSI) and TEFRA categories of coverage; the database of individuals served by the Title V CSHCN program who do not have Medicaid coverage; and the National Survey on the Health of Children with Special Health Care Needs. Qualitative data is available from the National Survey on the Health of CSHCN; the Natural Wonders Partnership Council report; the AR CSHCN Survey; and input received at Public Forums held at 11 towns across the state.

### 4) For women from youth to perimenopausal ages (A newly added MCH population):

Population data on women in Arkansas was obtained from the National Center for Health Statistics Web page. Deaths and causes of deaths to Arkansas women were obtained from death certificates collected by the Health Statistics Branch of ADH. Teen birth rates were determined from birth certificates, and infant deaths to teen births were taken from the Arkansas linked birth-infant death files. Insurance coverage data for women 15-44 were obtained from the U.S. Census Bureau, Current Population Survey. Data on the provision of health services to teens and older women were obtained from ADH clinic encounter files, or program numbers from the Reproductive Health Program (family planning), the Breast and Cervical Cancer Prevention Program, the Maternal and Infant home visiting services provided by the In-Home Services Branch of ADH, and the Pap smear database collected by Women's Health Section in Family Health.

#### e. The methods for assessing the state capacity included:

1) For direct health care, estimations and counts of populations to be served, combined with a measure that either gave an estimated count of the direct service provided (e.g. CSHCN, maternity, family planning, and STD visits recorded in encounters either by ADH, CSHCN or Medicaid; immunizations given as reflected in national surveys; other services as counted in representative surveys (PRAMS, YRBS, National Children's and National CSHCN, surveys); and other estimates of completeness of service such as initial prenatal visits in the first trimester. These data were reviewed to detect unmet service needs in counties in the state, where those numbers were available. For CSHCN, in addition to information obtained from the National CSHCN survey, a survey

was mailed to families of CSHCN that are served by the state program. A review of data on the State program database provided information related to numbers of children and youth served with inadequate or non-existent health care coverage (including primary coverage by private third party programs, Medicaid and SCHIP).

- 2) For enabling services, the MCH Planning Team reviewed Medicaid enrollment data for the Women's Health (Family Planning) Waiver, the Medicaid for Pregnant Women Program, and Medicaid children covered by EPSDT and SCHIP were where data were obtainable. The Team also reviewed WIC data on those who were enrolled in the program, and an unduplicated count of clients served. Coordinated school health information collected from schools and other program components were also reviewed. For CSHCN, information provided by the Natural Wonders Partnership Council report, the National CSHCN survey, input received at Public Forums held at 11 sites around the state, and responses to surveys mailed to families on the Title V CSHCN database were used in addition to information obtained from the state program's database related to enabling services provided by the program.
- 3) For population-based services, Newborn Screening, Oral Health, and Injury Prevention, the Team reviewed data obtained either from the programs themselves or from the many relevant files managed by Health Statistics Branch of ADH. SIDS death data were collected from autopsy reports from the State Medical Examiner's Office. Outreach and public education data were collected from the Connect Care Program in the Health Connections Section of Family Health.
- 4) For infrastructure building services, needs assessment data were obtained from the extensive reviews of the state done by the Natural Wonders Partnership Council; from formal evaluations such as those for the Women's Health (Family Planning) Waiver, and the ANGELS Evaluation; from ADH agency-wide planning and policy processes, from monitoring data such as encounter forms documenting services provided by the Agency; from surveys maintained by the ADH such as PRAMS, BRFSS, YRBS, the Tobacco Survey and others; the HRSA Arkansas Strategic Partnership Session; and from networking with stakeholders in the state. Additionally, many helpful conversations were held with MCH professional colleagues in other states.

#### f. The data sources used included:

1) For pregnancy and infant care, the primary data used were taken from the birth and infant death certificates collected by the Health Statistics Branch of ADH. These included number of births by maternal race and ethnicity, their birth weights, their gestational ages at birth, the month prenatal care began, the mother's pre-pregnancy weight and weight gain, and any reported pregnancy or newborn medical complications. County of residence of the family and location of hospital of birth were also obtained from these records, as were causes of infant death and age at death. The Pregnancy Risk Assessment and Monitoring Survey (PRAMS) was used frequently for both quantitative and qualitative data, especially for some studies linking PRAMS data to the birth and infant death record. However, PRAMS is collected as a state-wide probability sample, and therefore

cannot be used for local databases. While some smoking data could be obtained from these sources, additional information was obtained on those pregnant women who sought care to stop smoking from the SOS QuitLine and its Evaluation. Linked birth-infant death records, were matched with a high order of completeness to Medicaid claims files from the Medicaid for Pregnant Women Program, and offered a richer data source for details of medical care during pregnancy and the newborn periods. Hospital discharge records were also matched in this filing system, which is being used to evaluate the ANGELS program at UAMS. In the ANGELS evaluation, limitations on accuracy for gestational age, early prenatal care, infants' names, methods of delivery and a number of other variables can be assessed and corrected. Counts of individual patients served by program (family planning, maternity, WIC, immunizations and STI) were available from encounter data collected by the ADH. These sources also provided more detailed information on timeliness of care, numbers of visits, contraceptives used and STIs diagnosed. Counts and positivity rates for certain laboratory tests (HIV and Chlamydia) were available from the ADH Laboratory. Counts of pregnant women using the Healthy Babies Campaign Hotline, obtaining educational materials, and enrollments in Medicaid were available through the Health Connections Section of ADH. Finally, a lengthy search of the medical and social literature presented in the Background Study to Support Reducing Infant Mortality in Arkansas (Attachment D) provided further evidence of the causes of infant mortality, and promising or evidence based interventions to reduce it.

- 2) For the child health care system, the primary data sources included intercensal population estimates by age, race, ethnicity and county of residence, that were obtained from the Institute for Economic Advancement at UALR; the birth and infant death records; and Medicaid enrollment and claims records for clients in Early and Periodic Screening, Diagnosis and Treatment (EPSDT) and the State Child Health Insurance Program (SCHIP). Medicaid's enrollment and expenditure data for the Supplemental Security Income (SSI) Program and the Tax Equity and Fiscal Responsibility Act of 1983 (TEFRA) Program were available to complete the reimbursement information on Children with Special Health Care Needs (CSHCN). While enrollment data in these programs have been fairly readily retrieved, breakdowns by EPSDT and SCHIP have not been reliably reported to the MCH Programs by Medicaid in recent years. The complexity of including all programs and accurately identifying claims for specific services in all programs simultaneously is recognized as a significant reporting difficulty. Capacity building efforts are now being more vigorously undertaken, as a pathway for sharing data with Medicaid has been newly established, involving the Deputy Director for ADH, and the Medical Director for Medicaid.
- 3) For the Children with Special Health Care Needs Program, the primary data sources included the Medicaid enrollment and claims records for children and youth in the SSI, TEFRA and Alternative Community Services Home and Community Based Waiver aid categories. Additional data sources included the Part C Early Intervention database as well as the Title V CSHCN database.
- 4) For Women from youth to perimenopausal ages, whose interests were advanced by a planning process bringing all HRSA programs to the table (*The Arkansas Strategic Partnership Session Report*, Nov 2008, provided in Attachment M), a variety of data sources have been used in addition to those

mentioned above. They included: 1) population data from US Census Bureau QuickFacts 2006; 2) rurality as defined by eligibility for HRSA Rural Health Grants; 3) Arkansas Departments of Parks and Tourism; 4) US Bureau of Labor Statistics (BLS) unemployment data, 2005; 5) the Arkansas Economic Development Commission, State Profile, February, 2008; 6) Fortune 500 compiled by *Fortune Magazine*, assessed on the Internet, April 30 2007 Issue; 7) BLS, Regional and State Employment and Unemployment, 2007 release; 8) US Department of Commerce, Regional Economic Information System, 2007 release; 9) US Census Bureau, 2006, American Community Survey, accessed on the Internet, March, 2008; 10) United Health Foundation, America's Health Rankings, accessed on the Internet February, 2008; 11) HRSA Geospatial Data Warehouse, Arkansas State Profile, accessed February, 2008 for MUAs; 12) HRSA Geospatial Data Warehouse, Arkansas State Profile, accessed February, 2008 for HPSAs; and 13) Behavioral Risk Factor Surveillance System, 2006 County Data Report, accessed March, 2008.

# g. Linkages for selection of priorities and performance measures

Understanding linkages between assessment, capacity, and stakeholder priorities, taking into consideration all the parts of these individual assessments, was the responsibility of the MCH Planning Team (MCHPT) with continual discussion and advice from the Director and Associate Director for Management and Operations of the Center for Health Advancement. The assignments of priorities among the national performance measures, and the selection of state performance measures was a very widespread conversation this year, generally beginning as a proposal from the Core Planning Team and negotiated with those bringing the most important resource to Arkansans for any particular performance measure. More than in any past year, the process for "networking the networks" to establish these planning details was complicated and labor intensive. Central to this effort was the Natural Wonders Partnership led by the Arkansas Children's Hospital that linked many existing child advocacy and child development programs, and conducted a very thorough statewide needs assessment for children and families. The failure of growth in federal and state funding for clinic services has necessitated this collaborative effort. At the same time, many federally sustained technical assistance efforts aided Arkansas planners, including: 1) "System of Care" (SOC) for Children's Mental Health, 2) the Early Childhood Comprehensive Systems (AECCS) planning program, 3) the Assuring Better Childhood Development (ABCD) Technical Assistance Project and its subsequent grants, 4) the CDC's Coordinated School Health Initiative and 5) the HRSA Regional Office Technical Assistance effort in Arkansas involving all Arkansas HRSA programs. These technical assistance and planning supports enabled building these networks. The leaders of the Center for Health Advancement and the Family Health Branch made special efforts to link these networks into the choosing of priorities. Ultimately, once the MCH and CSHCN program staff had designed and proposed these priorities, it was the responsibility of the MCH Core Team and ADH to review and approve these plans and provide feedback to stakeholders before submission to the MCH Bureau's Block Grant Program.

# h. Dissemination

Dissemination of the developing documents both for the needs assessment and for the 2010 application was conducted in several stages. Initially written feedback was sent to all the participants in the

Stakeholders Meeting. This consisted of a summary of the information gathered in the meeting and the priorities of the participants. Later, several meetings within the Arkansas Department of Health were conducted using the results of the Stakeholders Meeting to help set priorities and develop objectives. In addition the Stakeholders Meeting summary about Infant Mortality was shared with the Natural Wonders subgroup on Infant Mortality. Additional input from the Natural Wonders Partnership Council was obtained regarding children's health, as well as ongoing discussions regarding Infant Mortality in the state. Eventually all the input was summarized and provided to the Senior Staff within ADH as well as documented in the needs assessment. Additional input from the Senior Staff with their consideration of the needs assessment and the agency's Strategic Plan helped shape the 2010 application and the state's performance measures. Finally, a Public Hearing took place July 1<sup>st</sup>, 2010, where copies of the draft needs assessment and the draft 2010 application were provided and comment was requested.

# i. The strengths and weaknesses of the process for this comprehensive needs assessment can be described as follows:

# 1) Strengths of needs assessment process

This needs assessment process was strengthened by the following: 1) the MCH Planning Team (MCHPT) initially reviewed the previous five years of experience in Arkansas's MCH programs as reflected in Annual Reports to the MCH Bureau, and presented summaries of this data to the assembled stakeholders who then provided input on health priorities for mothers and children; 2) for the past 4 or 5 years, Arkansas health and social services programs and health providers have been generating and advancing many partnership forums that discuss the health of women and children, some of them with general and some with targeted aims; 3) Center for Health Advancement, Family Health and CSHCN program leaders have been actively involved in many of these partnerships; 4) The Natural Wonders Partnership Council conducted extensive outreach to assess public, professional, and organizational interests in improving the health of children (through statewide telephone surveys, key informant interviews, study circles and regional discussions); 5) these partnership forums continue to meet regularly, creating an ongoing dialogue about needs and actions; 6) the ADH has set several of its major health priorities to reducing infant death, improving the statewide trauma system as part of reducing injuries and injury deaths to children, and improving public awareness of the need for preventive health care and healthful behaviors; 7) earlier, the reorganization of the ADH brought into program leadership the knowledge and skill of many physicians trained in public health as well as a public health dentist and a veterinarian; 8) the statistical capacities of the Health Statistics Branch and data assessment capacities of the Epidemiology Branch of ADH have been greatly strengthened over the last 5 years; 9) early last calendar year and into this one, MCH and CSHCN Programs convened a large variety of stakeholders including many from health services, parents and community representatives in Arkansas specifically to assess needs and priorities for MCH Block Grant funding; and 10) the MCHPT members held many conversations with fellow MCH Directors among the 5 states in DHHS Region VI, through regional conferences and during the national meetings of the Association of Maternal and Child Health Programs (AMCHP).

### 2) Weaknesses of needs assessment process

Weaknesses in this process were also fairly numerous. First, some weaknesses stemmed from the very breadth and number of partnership forums that provided (and are still providing) input into strategic planning for health in Arkansas. The extent of this information required the MCHPT itself, with the support of ADH leaders, to cull out from a wide variety of interests, specific interventions related to the levels of the MCH Pyramid, and to select performance measures, define the activities, and project the desired results in benchmarks that responded to the gathered priorities. Second, an ongoing process like this required planners to take a "snapshot" of all this information and make predictions of the best things to do in a very fluid picture. Third, a process like this tends to result initially in ambitious plans that must be refined and directed to a set of interventions that are both realistic and likely to be effective. While partnering agencies can reach across the organizational divides between them, true interdependence of action is still rare, but some duplications of effort can be avoided and new gaps understood. Fourth, the breadth and complexity of this process burdens the effort to keep stakeholders well informed of its progress. Fifth, MCH Block Grant funding level has remained flat, and yet the demands are growing on Block-funded staff to handle these infrastructure issues and still maintain vigorous gap filling, enabling, and population services. Basically, the real growth in federal support to develop health systems for women and children has come from expansions of eligibility in Medicaid State Plans (direct and enabled care); followed by extensions of technical assistance, data collection and use, partnership building, professional education and advocacy programs by the MCH Bureau; and some significant special grants from HRSA, CDC and SAMHSA (infrastructure building). Finally, the tasks of the state-level MCH leaders have become much more complex, while needed reforms to the national health care system are still unfolding in Congress.

# 2. Partnership Building and Collaboration Efforts

In the past three years, Arkansas has been continuing its broad child partnerships and forming a sizable number of new partnerships to address perceived needs in the state. Many are already discussed above. Below are listed, by name and description, several of the most salient for women and children. The MCH sub-populations they address are indicated in parenthesis.

# a. The Partnership serving Children with Special Health Care Needs (Addresses children with special health care needs)

In addition to the intitiatives listed below, the following are examples of other partnerships: the **Arkansas Oral Health Coalition is** a voluntary not-for-profit organization representing oral health interests throughout Arkansas. The Coalition provides leadership to formulate and promote sound oral health policy, increase awareness of oral health issues and assist in promotion of initiatives for the prevention and control of oral diseases. The mission of the Arkansas Oral Health Coalition is to promote life-long optimum oral health through primary prevention at the community, healthcare professional and family levels; through accessible, comprehensive and culturally-competent community-based oral health care provided through a variety of financing mechanisms; through educational opportunities

throughout life that will allow individuals to make better decisions for their health; and through informed and compassionate policy decisions at all levels of government. Sibling Support Group/SibShop is a coalition of program/agency staff from Partners for Inclusive Communities, Title V CSHCN, Arkansas Children's Hospital, parents/guardians and provider networks who are committed to establishing sibling support groups in the state to offer a venue for the siblings of CSHCN to spend time and develop relationships with other children who are experiencing a similar situation. Recruitment for adult siblings of individuals with special health care needs to serve as mentors has begun. The Developmental Disabilities Network is a coalition of three groups who serve individuals with developmental disabilities (AR Disability Rights Center, Leadership Education in Neurodevelopmental and Related Disabilities, and the AR Governor's Developmental Disabilities Council) and regularly work with the Title V CSHCN program by providing program input, educational opportunities, and, most recently, have joined with the program in the Needs Assessment process. Ongoing support from the students is an opportunity for the CSHCN program to obtain expertise when there is no staff or budget to provide it programmatically. The Arkansas Interagency Transition Project is another partnership bringing staff from the CSHCN program as an ally with other state partners (Department of Education, Vocational Rehabilitation, Higher Education, Division of Services for the Blind, and Division of Children and Family Services) and youth to enhance the transition process for youth with special needs in Arkansas.

# b. System of Care for Children's Mental Health (Addresses child mental health care systems in communities)

Funded by grants from Substance Abuse and Mental Health Services Administration (SAMHSA), Arkansas embarked on a process called "System of Care" (SOC) for Children's Mental Health. Supported by enabling legislation (Attachment J) and initial funding by the Arkansas General Assembly in 2007, that program has been developing a statewide infrastructure to achieve coordination of community-based services for mental health for children. The Child and Adolescent Service System Program (CASSP) which pre-existed the legislation served as a framework for the development of the state-wide regional system. At the time of this writing, two demonstration projects at the community level were in operation.

# c. Natural Wonders Partnership Council (Addresses pregnancy and infant, and child health systems)

"In early 2006, the leadership of Arkansas Children's Hospital (ACH) convened a small group of community partners to discuss the continuing problems of poor socio-economic and health outcomes for children." So begins the introduction to Natural Wonders, the State of Children's Health in Arkansas, 2008, 2<sup>nd</sup> Edition. Summarizing tightly, the Natural Wonders Partnership Council (NWPC) engaged: 1) the public through a phone survey, 2) communities through "study circles" (diverse groups of community members in many locations), 3) providers through provider focus groups, and 4) selected experts through key informant interviews. The overall determinants of child health and development were illustrated in an ecologic model showing "Parenting conditions for positive child health and development" at the center of concentric circles, surrounded by community settings including day care,

social services, health care, child-oriented culture, financial support to families, social life, and school (see Attachment E). In the outer circle, the diagram arrays the problems of lack of day care, lack of [parent] influence and participation, negative market forces, disease and injury, negative media, adverse cultural development, poverty, socially isolated living, unemployment, deficient law, and harmful environment. Reviewing both a very large quantity of data obtained from these inquiries (see summary, Attachment F), and with the ecological model guiding its analysis, the NWPC developed recommendations to "Improve Arkansas Children's Quality of Life and Health." These recommendations were grouped into the following categories: 1) prenatal care, infant mortality and teen pregnancy; 2) immunizations; 3) oral health; 4) reducing risky behavior – injury prevention; 5) tobacco prevention; 6) obesity prevention; 7) mental health services; 8) service needs or expansions; and 9) capacity building. Throughout the three years of this work, the NWPC recognized that "minority children bear a disproportionately negative impact in health outcomes, risk factors and service delivery." The Council identified as a "distinct priority" the need to improve outcomes for minority children. While many deliberative groups of the NWPC continue to meet and function as "action teams," the two most important to this MCH Block Grant needs assessment are the Infant Mortality Action Team and the School Health Action Team. Plans for the Infant Mortality Action Team included 1) reducing infant death by reducing Sudden and Unexplained Infant Deaths (SUID) through initiating death scene investigations (a new subcommittee is working on this plan), 2) learning more about causes of infant death through infant death reviews, and 3) efforts to reduce other causes of infant death, largely by developing parenting and professional education programs. The MCHPT envisions in later years following up on the new infant death review efforts by renewed interventions such as "Back-to-Sleep," "Folic Acid" and "First Ride, Safe Ride" awareness. These promotional efforts could be included in parenting education programs envisioned by the NWPC, or in preconception-inter-conception services being discussed as future efforts. One new avenue of implementation is just in its infancy, an initiative called STAR. Health that has begun work in three rural and poor counties in the Arkansas Delta beginning with outreach workers.

# d. The Arkansas Department of Health Strategic Plan (Addresses pregnancy and infant, and child health systems)

Beginning in 2008, the Arkansas Department of Health convened a strategic planning group that developed an overall departmental plan in preparation for presentation to the Governor, and subsequently the state legislative session of 2009. That plan was summarized in a figure called the "Strategic Map" (Attachment K). Among the agency's chief priorities, four major programmatic domains were put forward: 1) developing a statewide trauma system, 2) reducing infant mortality, 3) improving oral health, and 4) improving physical activity. Along with the activities in these program domains, the ADH reaffirmed its commitment to community health services conducted by local health units and to raising public awareness of the broad contributions made by public health interventions. Spanning these efforts was the intent to improve health literacy, a set of activities that would support many program approaches, as espoused by the Center for Health Advancement. Finally, the agency made strategic commitments to improved administration, especially personnel and financial support. Following the development of the strategic plan, the agency shared this plan with Governor Beebe. After

consideration, the Governor adopted and pursued proposals and funding, through a new tax on tobacco products, for a new trauma system and reducing infant mortality. Within the agency, Executive Staff and Branch leaders were selected and designated as "champions" for the development of goals, strategies, and performance measures to follow progress in all areas of development. The Director of the Center for Health Advancement (CHA) was selected as the champion for Health Literacy, the Director of the Center for Health Protection (CHP) was selected as the champion for the Trauma System, the Family Health Branch Chief was selected as champion for the Infant Mortality reduction, and the Chief of the Office of Oral Health, a dentist, was selected as champion to Improve Oral Health. With assistance from the CHA Director and the Branch Chief for Tobacco Control and Prevention, the Family Health Branch and its Section Chiefs articulated proposed actions for reducing infant mortality with appropriate measures to monitor progress. This interest on the part of the ADH's top stated priorities, combined with the interests from Natural Wonders has brought heavy emphasis to reducing infant death, which will be addressed in our state performance measures.

# e. The Arkansas Early Childhood Comprehensive Systems Partnership (Addresses child health and children with special health care needs)

Funded first in 2007 by an MCH Bureau grant program called Community Integrated Services Systems (CISS), Arkansas initiated a collaborative effort of ADH and the Department of Human Services (DHS), Division of Child Care and Early Childhood Educations (DCCECE). Subsequently named the Arkansas Early Childhood Partnership (AECP), the group developed committees for Parent Education and Family Support, Social-Emotional Health, Early Care and Education, and Medical Homes. The Medical Homes Committee was co-chaired by the Family Health Branch Chief of ADH and the Policy Director of Arkansas Advocates for Children and Families and includes the CSHCN Director. The Medical Homes Committee helped write the health component of a new Quality Rating Improvement System, which culminated in a voluntary initiative called "Better Beginnings." Its explanatory guidance and hand-out materials were extensively vetted among early childhood education providers. This initiative is being formally "rolled out" by the DCCECE in coordination with that Division's licensure program for early childhood education facilities. The Medical Homes Committee also selected and applied in two Arkansas medical practices a validated development assessment screening tool, the Ages and Stages Questionnaire (ASQ). The two "pilot practices" found the tool very helpful. The State Medicaid Program is now considering elaborating its reimbursement codes to pay separately for the performance of these ASQ screenings as part of EPSDT/SCHIP. The Medical Homes Committee continues a task to develop a "Tool Kit" aiding early childhood educators to actually apply the ASQ to their child clients, and to coordinate parents and the child's primary care physician to review and follow up on the findings.

# f. The Coordinated School Health Initiative (Addresses school age children through a collaborative of ADH and the Arkansas Department of Education)

Since the mid 1990's, CDC has funded Arkansas for a Coordinated School Health (CSH) initiative. Collaboratively organized by the ADH and the Arkansas Department of Education (ADE), this initiative has been guided by a CORE Team consisting of staff from the ADH, ADE, DHS and others, and administratively supported by a staff in ADH that includes positions in the Child and Adolescent Health

Section of Family Health, and the Life Stage Branch of the Center for Health Advancement, in addition to other staff employed by the ADE. The Coordinated School Health (CSH) Initiative continues to expand, having developed activities in 33 school districts. The program has also facilitated the development of School Wellness Committees, required of all school districts by ADE regulation.

The Tobacco Master Settlement Agreement and other Tobacco Tax funds were legislatively appropriated through ACT 1220 and other laws that lend support to the CSH effort. In addition, Act 1220 created the Child Health Advisory Committee which is charged to produce recommendations for improved nutrition environments and increased physical activity in schools. These recommendations were promulgated in school regulation (policy frameworks) for all schools, resulting in control of food vending machines in school settings and increases in physical education classes and daily physical activity inside and outside the classroom. The schools also began universal screening of children K-12 for body mass index with letters home to parents expressing the readings and appropriate health recommendations.

# g. The HRSA-Facilitated Strategic Planning for Women's Health (Addresses women from youth to perimenopausal ages)

In 2008 consultants from the DHHS Region VI (Dallas) Office of HRSA convened in Arkansas a strategic planning group involving representatives from all HRSA-funded services in the state. This discussion included representatives from the Office of Oral Health, ADH; Office of Senior Management, ADH; Office of Rural Health and Primary Care, ADH; Children's Medical Services of DDDS, DHS; Office of Ryan White, Part B, ADH; Arkansas Area Health Education Centers, UAMS; Community Health Centers of Arkansas, Inc.; and Family Health Branch, Center for Health Advancement, ADH. This strategic planning initiative for women addressed Health Insurance Coverage and Income, Reproductive Health, HIV/AIDS and STDs, Oral Health, Chronic Disease, and Health Workforce issues. The document describes successes, opportunities, challenges and barriers. The group developed Goals including A) increased collaboration among statewide health programs focusing on women's health, and B) exploring innovative approaches to workforce education with specific focus on cultural relevance, improve health literacy, improvement of care coordination, and assistance to patients in navigating the health service system (shown in Attachment M).

# h. Discussions toward a common women's health performance measure in DHHS Region VI (Addresses women's health and pregnancy and infant health)

During its last two meetings, the Region VI Maternal and Child Health Directors' group discussed a collaborative effort among the five states to articulate and address one state performance measure in common. The group achieved general agreement on a women's health issue to initiate and follow. Specific discussion of Post Partum Depression, led to a discussion within each state of the use of a PRAMS Core brief "screener" question to identify respondents reporting symptoms related to depression (#72 in the Arkansas PRAMS Booklet). At the second meeting, several members discussed the value of selecting this measure, as maternal depression has serious implications for the young child's development, and therefore impacts two lives at early stages. Further discussion ranged over several other possible measures, and several ways the five states might collaborate. Especially, the need to

initiate some new service activities was discussed. The group decided to continue the discussion, and made no specific commitments, thinking that a year of planning would develop a more successful effort among the states. None of the states have their baseline data in hand yet, as they are awaiting the CDC's production of the weighted results.

#### i. The Arkansas Finish Line Coalition

Led by the Arkansas Advocates for Children and Families (AACF) in the person of its Health Policy and Legislative Affairs Director, the Arkansas Finish Line Coalition represents the culmination of many advocacy efforts directed at improving Medicaid services for children. The Finish Line' chief priority was to further increase income eligibility levels for children enrolled in the AR Kids B Program (Arkansas's SCHIP effort). Legislation was initiated to make this change during the last session of the General Assembly, but the economic crunch, and a projected shortfall in Medicaid of an estimated \$400 Million, caused that expansion to be put on hold. Never-the-less, the Health Policy and Legislative Affairs Director has been actively involved in all MCH Block planning, in the Arkansas Early Childhood Comprehensive System forum (Co-Chairing the Medical Homes Committee), and in the Natural Wonders Infant Mortality Action Team, among many other roles.

# 3. The strengths and needs of the Maternal and Child Health Population Groups and Desired Outcomes

#### a. Crosscutting strengths and needs across all population groups

#### **Crosscutting Strengths**

Arkansas's greatest resource is its people. As of the intercensal estimate of 2008, Arkansas was home to 2.86 million people, projected to rise to about 3.1 million by mid 2010. For the 2008 population, an estimated 77% were of white or European ancestry, 16% were of African American descent, 0.8% were of Native American descent, and 1.2% were of Asian or Pacific Islander descent. Nearly six percent (5.6%) were of Hispanic ethnicity regardless of race, and this group has shown rapid growth over the last decade. Arkansas's economy depends on its great natural wealth in forests, in farmlands in the rolling piedmont region, and in flat farmlands of the Mississippi Delta. Dairy farms predominate in the northwest, followed by forested lands in the Ozark and Ouachita mountain parks and all across the southern extent of the state, supporting tourism, lumber and pulpwood industries. Toward the east, farmlands raise large commercial crops in soybeans, rice, wheat, and other grains used as animal feed. In recent years, Arkansas has begun to produce natural gas from its shale oil fields. The state is also well known for its poultry and meat-producing industries in the northwest, as well as the organizational offices of the Wal-Mart, Tyson Foods, and JB Hunt Trucking operations. Industrial output includes food processing, electrical equipment, fabricated and metal products, bromine, and vanadium. While medium-sized population centers exist in the "four corners" of the state, Arkansas's main population, (to an unusual degree among states) and its commercial, health, educational and governmental activities are located in the center of the state near Little Rock and its environs, situated along the Arkansas River.

Little Rock is home to: 1) the Arkansas State Agencies for Health and Human Services; 2) the Medical Campus of the University of Arkansas for Medical Sciences (UAMS); and 3) the five largest hospitals in the state, including the Hospital of UAMS, the Veteran's Hospital, the State Mental and Mental Research Hospitals, the St. Vincent's Health System, the Baptist Health System, and a newly developed specialty hospital – the Arkansas Heart Hospital. Arkansas's highways radiate out from Little Rock to all corners of the state. The state enjoys the practices of 1,426 family and general practice physicians, 297 obstetrician gynecologists, and 456 pediatricians. Because of the smallness of the state in both geography and population, and the central concentration of its population, the state is unusually well suited to centralized organizations of health and social services. Outside of Little Rock, about 60 medium-sized or smaller hospitals serve their communities, and a total of 47 have obstetrical delivery services. The Area Health Education Centers (AHECs) are located in the larger regional cities including Fayetteville, Fort Smith, Jonesboro, Pine Bluff, Helena-West Helena, Texarkana, and Eldorado. Medical residency training in Family and Community Medicine occurs in the AHECs and the community hospitals in these cities. Family physicians, largely in private practice, are the most numerous primary care physicians in the state, and include many licensed physicians who are Doctors of Osteopathy. They serve in medical centers in the ADH regions alongside specialists in OBGYN, Pediatrics, Internal Medicine (and some medical subspecialists), Surgery, Radiology, and Pathology. Most of these hospitals would be considered Level II or I for Perinatal Services, although their self-designations may differ. One hospital in the south and one in the northwest each has a subspecialty trained neonatologist. The AHEC program has been successful in attracting physicians to practice in other small towns in the state. Supported by state and federal funds, Arkansas is also home to 53 Community Health Centers and 29 Critical Access Hospitals located in rural areas to enhance the distribution of care. Emergency Medicine specialists staff many of the larger hospital emergency departments, and hospitalist practices are growing. Nurse practitioners licensed as Advanced Practice Nurses (APNs) can obtain prescriptive authority, and they extend the practices of many primary care doctors in Arkansas. In addition, 44 Women's Health Nurse Practitioners (WHNPs), mostly APNs, are employed by the Arkansas Department of Health to serve in Family Planning, Maternity, BreastCare and STD clinics. Nearly all WHNPs "circuit ride" among a number of local health units to assure statewide availability of clinician services for women.

The most important financial institutions are Arkansas's health insurance companies. Blue Cross/Blue Shield, Prudential, and a host of other private insurance carriers function in the state, while the Medicaid Program is by far the largest single insurer in Arkansas. Arkansas's Medicaid State Plan, enjoying a three-dollars-to-one state match with the Centers for Medicare and Medicaid Services (CMS), provides for generous benefit packages for mothers and children, including coverage for transportation, case management and other services, and including financial eligibility to 200% of poverty for pregnant women and children. The WIC program serves mothers and infants in all 93 local health units throughout the state with incomes up to 185% of poverty.

Arkansas performs metabolic screening and hearing screening for nearly all newborns; provides, as a collaboration between the local health units and local physicians, immunizations through the Vaccine for Children's Program; provides access to STD treatment and prevention services to all counties; assures surveillance and technical assistance to all communities for infectious disease outbreaks; and provides ambulatory direct care for all individuals with communicable diseases.

The highest health policy officer is referred to as the state Surgeon General. This person sits on the Governor's Council, and is his chief health advisor. The current incumbent also Directs the Arkansas Center for Health Improvement (ACHI), a broad collaborative for health policy that includes representation from ADH, UAMS Colleges of Medicine and Public Health, two large health insurance networks, and many other health, legislative and business leaders. The Surgeon General also functions actively with the Arkansas State Board of Health. The Arkansas Department of Health (ADH) is a cabinetlevel agency whose Director also sits on the Governor's Council. The ADH is a centralized, statewide health agency comprising five health regions. Regional offices, directed by the Center for Local Public Health, support and direct the 93 Local Health Units (LHUs) located in the 75 counties so that each county has at least one Unit. Health workers in these 93 Units are all either employees of the ADH (the majority), or their local county (the minority). Most organizational policy and procedure is common to all LHUs, and there is one centralized office for administration including budgeting and human resources offices. Local Health Units provide environmental health oversight and clinics including family planning, prenatal care, WIC, immunization and STI Clinics. ADH, however, allows some autonomy for functions at the regional and local levels, especially flexibility for some details of programs so they work smoothly with the community. For example, if an LHU has a maternity clinic, the timing during pregnancy of referrals to local physicians for completion of prenatal care and delivery varies according to local physician preferences. Arrangements for referral and consultation with local health providers are guided by LHU administrators, nurse practitioners and nurses as supported by ADH policy and protocol. The administrators also support a Hometown Health Initiative (HHI) Coalition in each county. The administrators relate closely to county and municipal government, especially for issues regarding emergency response and the unit's real estate.

The University of Arkansas for Medical Sciences (UAMS) in Little Rock is the graduate school for medical specialties and allied health professionals. UAMS is home to the colleges of medicine, nursing, pharmacy, public health, and allied health sciences. It houses the residencies in Internal Medicine, Surgery, Obstetrics/Gynecology and Pediatrics, and the headquarters of the Area Health Education Centers (AHECs) that train physicians for family practice. Many subspecialty programs provide advanced training. Among other subspecialty fellowships, the OBGYN Department provides advanced training in Maternal/Fetal Medicine, and the Pediatrics Department provides advanced training in general pediatrics research, neonatology, developmental pediatrics, adolescent medicine, and others relevant to the special needs of Arkansas's children. The University Hospital of Arkansas and Arkansas Children's Hospital (ACH) provide the settings in which the highest levels of hospital and ambulatory care are given in the state. The Arkansas Children's Hospital deserves special mention for its full range of specialty and subspecialty inpatient and ambulatory services for children, its many specialty outreach clinics and its leadership in health planning through the Natural Wonders Partnership Council. Department at UAMS in cooperation with neonatology services deserves special mention for its program towards regionalizing perinatal care called Antenatal and Neonatal Guidelines for Education and Learning Systems (ANGELS).

### **Crosscutting Needs**

Giving rise to Arkansas's greatest needs are the state's relatively large proportions of the population that live on subsistence farming, or live in rural and inner city poverty areas. Rural isolation is especially true in the mountains of the northwest, and in the Mississippi Delta in the east. Fortunately, Arkansas's climate has mild winters, but wet and icy roads are often barriers to transportation. Some smaller counties have two or three towns as population centers that are more cohesive as towns than as a county. In these situations, health care is more likely to be fragmented. In national health rankings, Arkansas's usual place is among the lowest 10 of the 50 states in economic and health status. Health status disparities are prominent being most evident among African Americans compared to non-Hispanic whites, but are also shared by other minorities such as residents of Hispanic and Asian-Pacific Islander origins. The state's health statistics often reflect a northwest to southeast gradient with the lowest health status measures in the Mississippi Delta region in the eastern and southeastern part of the state. These counties have the highest proportion of African American residents and the greatest levels of poverty. For example, Attachment R depicts infant mortality rates by county for the five-year period of 2004-2008. The northwest to southeast gradient can be seen in this map. Attachment T shows important gaps in the availability of primary care physicians, especially in the Delta and the very rural mountainous areas of the state. Shown in the same attachment, all but two of Arkansas counties are designated as medically underserved areas or contain a smaller area so designated.

Arkansas's overall ratio of physicians to the population (202.2/100,000 in 2009) is far lower than the national ratio (276/100,000; 2005 estimate). The state's distribution of medical services leaves many communities greatly underserved for health care. Only now is Arkansas doing a careful assessment of the staffing and facilities of all hospitals to determine their capabilities to handle emergency needs such as victims of traffic accidents and other trauma. Outside of the large hospitals in Little Rock and the medium-sized towns in the "corners" of the state, the ability to handle emergencies is probably limited. While the state is fortunate to have 53 CHCs, there remain communities with little access, except at large distances, to primary physician care. Specialty physician care is largely limited to the middle-sized cities in Arkansas, and subspecialties to only the largest of hospital facilities and medical communities, e.g. Little Rock. Neonatologists in El Dorado and in the Northwest are the exceptions.

# b. Strengths and needs by population subgroups

### 1) Strengths and needs for pregnant women, mothers and infants

# Strengths in services for Pregnant Women and Infants

With the focus on *strengths* for Pregnant Women and Infants, all Local Health Units (LHUs) have public health nurses who have basic training and supporting nursing policy to provide care to pregnant women. They provide basic nursing care and referral to local physicians, or to a neighboring clinic. Among the 75 counties, 49 have weekly prenatal clinics in 54 community sites. These clinics are attended by "circuitriding" Women's Health Nurse Practitioners (WHNPs) who serve as the prenatal clinician. They develop close referral relationships with local physicians. They also provide Family Planning, STI and Breast and

Cervical clinic services that will be described in the section on Women's Health. These WHNPs are administratively supervised by Patient Care Leaders at the regional level and clinically supervised by a Board Certified Obstetrician Gynecologist, the Physician Specialist (PS) in the Women's Health Section. The Family Health Branch Chief is also a trained obstetrician, though his certification is in Preventive Medicine. The PS "circuit-rides" to attend specialized clinics and provide direct supervision to the 5 Women's Health Nurse Practitioner Coordinators in all regions. In turn these Coordinators provide clinical supervision for the other 39 WHNPs. All WHNPs follow a statewide set of nurse practitioner (NP) protocols developed jointly with their OBGYN physician leaders in ADH. The OBGYN physicians and the WHNP Coordinators annually update the Nurse Practitioner Protocols by which they establish their collaborative practices.

For infants, all LHU nurses are trained in basic child health nursing care, and make referrals to local family physicians and pediatricians. At the present time, LHU services for infants are provided in WIC and Immunization clinics, as all poor children, now covered by Medicaid's ARKids A and B, are referred to privately practicing primary care physicians (PCPs) and Community Health Centers (CHCs). Physician direction for child health programs, especially the population based services for children, is provided by the Deputy Director for the Family Health Branch, a Board Certified Pediatrician who is experienced in managing public health programs for infants and older children.

No listing of strengths in services to pregnant women in Arkansas can be complete without a discussion of ANGELS. Funded by Medicaid, guided by the OBGYN subspecialists of UAMS and Neonatal Subspecialists of UAMS and ACH, the ANGELS program develops evidence-based clinical guidelines for perinatal care. ANGELS conducts telemedicine "Grand Rounds" every Thursday morning which is beamed through extensive video hookups to doctors and nurses in hospitals and local health units throughout the state. During these conferences, a resident will present a patient with an illustrative health issue, the faculty will discuss that patient with the resident, and questions from local and distant viewers are entertained. A guideline, drafted by the faculty, is then circulated for input from any listener. Good discussions identify issues and capabilities found in rural as well as urban and academic centers arising during the course of caring for patients with these high risk conditions. After this process of "vetting" new guidelines, they are finalized and shared both on the University's web page, and on compact disks distributed to participating doctors and hospitals. Leaders of the ANGELS program are particularly interested in assuring that high risk mothers and infants receive level of care appropriate to their need. ANGELS is undergoing an extensive research evaluation, also funded by Medicaid.

# Needs to improve services for pregnant women and infants

Arkansas pregnant women give birth to about 40,000 live born infants each year, though this number has fluctuated between roughly 38,000 and 41,000 in recent years. Using a rule of thumb based on a normal pregnancy duration of 9 months, we estimate the total number of pregnant women residing in the state in one of those years to be approximately 53,500 (40,000 X 12 / 9, plus 200 fetal deaths and rounded). In 2008, Arkansas resident live births numbered 40,489, among which 291 (a provisional number) suffered an infant death for a rate of 7.4 per thousand live births. In 2006 Arkansas's infant

mortality rate, recorded by the National Center for Health Statistics (NCHS) was 8.54 per 1000 during which year only 4 other states in the US had higher infant mortality rates. This reflects the state's usual placement among the unhealthiest 10 states in the country. Infant mortality rates for counties in Arkansas, aggregated over the five-year period of 2004-2008 (for stability of rate) appear in Attachment W, and are depicted in Attachment R. In this data set, the counties with the five highest rates were Prairie (16.8), Crittenden (13.8), Chicot (11.7), Sevier (11.5) and Ashley (11.1). These counties are all located in the Mississippi Delta region of the state where communities have high concentrations of poverty and minority residents, and communities are small. While maps of low and very low birth weight rates may differ from Attachment R by a few counties' quartile rankings, the overall impact of these maps is to underline the health status gradient from best in the northwest part of the state, to worst in the Delta. Attachment X charts the rates of preterm delivery (<37 weeks) and low birth weight (<2500 grams) by region for the years 2004-2008 in Arkansas. The state's teen birth rate, 61.6/1,000 in 2008, was fifty percent higher than the US rate, and contributes considerably to its high infant mortality rate. The adolescent population giving birth will be discussed in the fourth MCH population group added to this report for Women's Health. Appendix S presents the ratio of infant mortality rates for African Americans compared to Whites for the years 2004-2008, illustrating the degree to which minority Arkansans suffer excess infant deaths.

The state's infant mortality rate tended to rise from 2000 to 2006, as did the rates of preterm and low weight births. While neonatal mortality rates in Arkansas approach national rates, the post neonatal rate for our state is especially high when compared nationally. The birth rate for teens 15-17 years old has been essentially unchanged the past few years while the rate for those 18-19 years old has decreased slightly since 2006 (Attachment ZZ). Nonetheless, these rates remain well above comparable national rates. Alarmingly, the percentage of births with prenatal care begun in the first trimester fell from 80.1% in 2004 to 76.4% in 2008, shown in Attachment AA. Prominently, the disparities in these measures for African American births compared to all other demographic groups in the state are appalling. The causative factors behind these trends and comparisons are discussed at length in the Background Study to Support the White Paper on Reducing Infant Mortality in Arkansas found in Attachment D. These unwanted trends are attributable at least in part to the economic downturn in recent years, but other causes abound and are probably much more durable. For these reasons, the ADH has determined that reduction of infant mortality is among its very highest priorities for further effort. Activities flowing from the infant mortality priority are discussed below in subsections organized by the "layers of the pyramid" assessment with respect to national and state performance measures, and in the application with respect to activities and benchmarks for progress.

#### 2) Strengths and needs for the health of children

### Strengths in primary and preventive health services for children

Many assets relative to health services for children have already been discussed, and others are discussed in detail under Section B.4, Capacity by Pyramid Levels. In summary, the state is fortunate to have many organizations and state agencies invested in advancing the lot of children. For example,

Arkansas Advocates for Children and Families is a key player in promoting policies and practices that enhance health status of children, particularly those most vulnerable. The state has a well-trained work force of pediatricians whose medical society, the Arkansas Chapter of the American Academy of pediatrics, also takes an active posture in promoting child-friendly health policies. Arkansas Children's Hospital (ACH), in addition to serving as a top-tier tertiary care center, has in recent years taken on a much more active role in policy development. ACH has been the driving force behind the Natural Wonders Partnership, which as previously described, has conducted a statewide assessment and brought key players to the table around such issues as infant mortality, oral health, and school health. The Injury Prevention Center at ACH has also played a major role in passage of legislation vital to childhood safety efforts. Inextricably linked to all of ACH's initiatives are the faculty members within the Department of Pediatrics at the University of Arkansas for Medical Sciences.

A number of divisions, branches and sections within the Department of Health (ADH), the Department of Human Services (DHS), and the Department of Education (ADE) all work hard every day toward the health and welfare of children in the state. While the role of ADH in direct service provision has been decreased in recent years, the department is still the sole provider of WIC services and continues to administer a significant percentage of all vaccinations to children and youth. ADH of course also operates screening programs at the state level. DHS has organizational units dedicated to Medicaid services, child care and early education, foster children, and abused and neglected children. ADE has become extremely involved in health through the Coordinated School Health initiative and recent selection of sites for school-based wellness centers, as well as in ongoing Act 1220-related anti-obesity activities.

Beyond the contributions of individual providers, perhaps Arkansas's greatest asset with respect to child health is the willingness for individuals and groups to come together toward a common goal. Examples of collaborations abound (and are detailed elsewhere), such as the Arkansas Early Childhood Comprehensive Systems project, the System of Care initiative (for mental and behavioral health of children and youth), the Finish Line Coalition (to enhance health insurance coverage rates), the Natural Wonders process, ABCD-3, and the Child Health Advisory Committee, to name but a few. ADH also has formal partnership agreements with a number of "outside" agencies and groups (through MOA's, MOU's, contracts, etc.), most of which are critical to continued program operations.

### Needs to improve primary and preventive health services for children

With regard to child health status and systems issues in Arkansas, a key topic of interest is availability of health insurance. According to the US Census Bureau, only 6.2% of Arkansas children had no health insurance coverage in 2007. This figure is down from 10.5% in 2003 (see Attachment BB). Nonetheless, when the Natural Wonders telephone survey asked Arkansans in 2007 to name the top problems affecting children's health in the state, the most common response (35%) was related to health insurance. Respondents mentioned lack of coverage, the high cost of coverage, and the lack of comprehensiveness of many existing insurance plans. Thanks to a progressive Medicaid agency and many advocates within the state, Arkansas has enjoyed much success in insuring its children. Further

progress was recently made through passage of state legislation in 2009 that expanded the income eligibility limit for ARKids B (essentially, the CHIP program) to 250% of the FPL. Unfortunately, this expansion has yet to be implemented due to state budgetary constraints. Furthermore, problems related to cost, portability, exclusions due to pre-existing conditions, and services covered, particularly under private plans, persist as substantial barriers for many parents. Additionally, child advocates estimate that 10,000 to 15,000 children are eligible for Medicaid/ARKids benefits but for various reasons are not enrolled. Recent average ARKids A&B enrollments expressed as a percentage of total 0-18 population for each county are displayed in Attachment CC. As expected, lowest rates of Medicaid enrollment are found in more affluent counties such as Faulkner and Benton (29.7%), while higher rates are found in eastern, southwestern, and north central counties.

The overall death rate is higher among Arkansas children than U.S. children as a whole (see Attachment DD). However, significant improvement was noted in 2008, particularly compared to 2004, for children 1-14 years old. Moving to specific problems causing excess morbidity and mortality in Arkansas's children, injury ranks high on the list. Not only is unintentional injury the leading killer of children older than one year, but Arkansas death rates have traditionally been much higher, often 60-90% higher, than comparable U.S. rates, shown in Attachments EE and FF. However, there is evidence of recent improvement among 0-14 year olds. Hospitalization rates for non-fatal unintentional injury have also consistently been more than twice as high as national figures as seen in Attachment GG. These same trends hold true for deaths due to motor vehicle crashes (shown in Attachments HH and II), although rates for both 0-14 year olds and 15-24 year olds improved significantly in 2008. Hospitalizations as a result of non-fatal motor vehicle crashes declined between 2002 and 2009, but still account for about 15% of all unintentional injury admissions as shown in Attachment JJ. Looking at geographic breakdowns, the three counties with the highest rates of hospitalization for unintentional injury, Stone, Sharp, and Independence, are clustered in north central Arkansas, indicated in Attachment KK. By race/ethnicity, white children have overall higher unintentional injury fatality rates, at about 31/100,000 versus 24/100,000 for African Americans and 22/100,000 for Asians reflected in Attachment LL. Whites have more motor vehicle crash deaths compared to blacks, at about 22/100,000 versus 13/100,000. These findings are echoed in hospitalization data showing 8.8/10,000 white children hospitalized for motor vehicle crash injuries versus 5.7/10,000 black children as in Attachment MM. Nonetheless, black children die in house fires at about twice the rate of whites (2.4 vs. 1.2/100,000 shown in Attachment LL). Furthermore, drowning deaths for African American children occur at about a 50% higher rate than for white children. Accidental poisoning deaths are relatively low for all groups, but highest for white children. On the other hand, homicide deaths occur about seven times more often among black children and youth in Arkansas (16/100,000) compared to whites. Firearms accounted for about twothirds of homicides among black youth between 2002 and 2006. As for suicide, the rate for Arkansans 10-21 years old is about twice as high among whites (7.9/100,000) as for African Americans (3.7). Because the total number of suicide deaths among Arkansas teens is fairly small each year, annual rates are erratic and there is no clear trend. However, self-reported rates of suicidal ideation as collected through the Youth Risk Behavior Survey are consistently slightly higher among Arkansas youth compared to the nation, shown in Attachment NN.

Possible reasons for Arkansas's excess childhood injury mortality include the rural nature of the state, as well as lack of rapid access to top-notch trauma care in many regions. A recent (2009) major step forward was passage of a tax (on tobacco) that will provide about 20 million dollars annually for creation of a statewide trauma system. This system is expected to be developed over the next two years, and should result in significant reductions in injury fatalities over time. Other factors contributing to higher motor vehicle crash deaths are inadequate seat belt usage and inexperienced drivers. The state recently addressed these concerns through passage of a primary enforcement safety belt law, as well as graduated driver licensing for adolescents. In addition, state laws were recently enacted to forbid use of cellular phones by teenage drivers and text messaging while driving for all drivers. Despite these measures, more work is needed to improve awareness of parents and children about behaviors that promote safety. Improved access to mental health services and other family supports might decrease both suicide and homicide rates among adolescents.

A second major preventable cause of childhood morbidity is obesity. Over three-fourths of the Natural Wonders survey respondents felt that overweight children constituted a moderate or serious problem, and about one-fourth of those with children expressed concern about their child or their children being overweight. The propensity for childhood obesity apparently begins early in life. Arkansas WIC data show a marked increase in rates of overweight and obesity among enrolled children over the last several years, reflected in Attachments OO and PP. Obese pre-schoolers tend to remain obese into their school years. Among other provisions, Act 1220 of 2003 mandated annual BMI measurements for K-12 children in Arkansas schools. Although subsequently amended to require measurements only in grades K, 2, 4, 6, 8, and 10, the law has yielded a massive amount of anthropometric data on children in the state. Trend data since inception, shown in Attachment QQ, show virtually no change in the combined percentage of children who are overweight (85<sup>th</sup>-95<sup>th</sup> percentile) and obese (>95<sup>th</sup> percentile). During the 2008-09 school year this total was 37.6%. Breakdowns by race/ethnicity show that Hispanics had the highest combined proportion at 46.9%, followed by African Americans at 41.2%, whites at 35.5%, and Asians at 29.4%, shown in Attachment MM. Factoring in both ethnicity and gender, Hispanic males were highest at 50.5%. Counties with the highest proportions of overweight/obese children include Lee (51.2%), Bradley (47.8%), Phillips (46.9%), Woodruff (45.4%) and Conway (45.3%) reflected in Attachment UU. With the exception of Conway, these counties are all in eastern Arkansas and have relatively high African American populations. The counties with the lowest fraction of overweight/obese children, Madison (31.1%), Crawford (32.9%) and Benton (33.3%), are predominantly white and situated in relatively more affluent northwestern Arkansas.

Along with other provisions designed to combat childhood obesity, Act 1220 established the Child Health Advisory Committee. This group has always included a representative from the Department of Health (most recently from the Family Health Branch) and has seen a number of its recommendations for schools implemented as policy. These include restrictions on school vending machine contents and accessibility, enhancements to physical activity and nutrition education, and prohibitions on use of food as rewards in classrooms. These measures and others have likely been helpful in preventing rates of overweight/obesity from rising further over the past six years. More work is needed, however, particularly to promote regular physical activity as a lifelong behavior. YRBS data show that in 2009, less

than one-fourth of Arkansas high school students participated in daily physical education classes, a proportion that has been decreasing over time (see Attachment RR).

Although usually not fatal, asthma is another major contributor to morbidity among Arkansas children. This chronic condition is responsible for many missed school days and a substantial number of hospitalizations. Statewide, children 0-21 years old were hospitalized for asthma in 2008 at a rate of 8.6/10,000 as seen Attachment KK. Counties with the highest rates of asthma hospitalization included Phillips (48.9), Lee (31.9), Mississippi (29.7), Ashley (25.3), and Drew (23.9). All of these counties are in the Mississippi Delta region of eastern Arkansas. Besides having larger proportions of impoverished children, who may not have sufficient access to high-quality preventive care in many cases, these counties may also present environmental challenges in the form of agricultural chemicals and abundant natural airborne allergens. The problem in these counties may be even worse than these figures suggest, since childhood asthma probably remains under-diagnosed in Arkansas, often being labeled as pneumonia, bronchitis, or some other respiratory illness. Looking at trends over time, statewide asthma hospitalization rates for 0-5 year olds do appear to have dropped slightly since 2002, depicted in Attachment SS. However, the issue of misdiagnosis remains problematic in interpreting these figures.

Breakdowns by race show that (non-Hispanic) black children had the highest hospital admission rate for asthma at 16.7/10,000, compared to 6.8/10,000 for whites and 3.9/10,000 for Hispanic children (see Attachment MM). Again, racial disparities probably reflect decreased access to appropriate preventive care for many minority children, together with poorer housing and other environmental factors (although genetic factors may play a role as well). In economically stressed families, the pressures of simply meeting basic daily requirements make proper management and control of a chronic condition such as asthma all the more difficult. The relatively low admission rate for Hispanic children may actually be misleading, as some of these children may have extremely limited access to advanced health care, particularly if they lack any form of health coverage.

Rates of immunization coverage are another key measure of health status among Arkansas children. As seen in Attachment TT, the proportion of two year olds who had received all recommended doses of DTaP, Polio, MMR, Hib, and Hepatitis B vaccines climbed to a high of 86.8% in 2006, then dropped to 77.9% in 2008, but rose to 83.0% in 2009. Part of the reason for the apparent drop-off is that data from private (VFC) providers are included in the 2008 and 2009 figures. Nonetheless, a valid concern is that parents may now opt out of required immunizations on the basis of philosophical objections alone. If increasing numbers choose not to immunize, a resurgence of many vaccine-preventable diseases is inevitable. Looking at county-specific data from 2008 (see Attachment UU), some of the lowest coverage rates are in counties in northwest and central Arkansas where education and income levels are relatively high and access to immunizations is not an issue. These include Washington (60.9%), Benton (65.0%), and Pulaski (65.1%) Counties. The interpretation for these counties is that more parents are consciously opting out of immunization, in contrast to counties such as Jefferson (64.0%) and Phillips (65.0%) which have much higher poverty and where true access issues probably do exist.

Another important health status issue for Arkansas children is dental health. Participants in the stakeholders' meeting listed dental care as one of the top priority issues. Few systematic data on prevalence of dental caries are collected within the state. A sample of 7,100 third grade public school children in 2003 found that 31% had untreated cavities, and 6% needed urgent dental care. A smaller sample of high school students found that 81% had evidence of past or current cavities, and 12% needed immediate attention. Regarding preventive services, convenience samples of third graders suggest that only about one in six has received sealants on molars, and this proportion has not improved much since 2003, shown in Attachment VV. The ADH Office of Oral Health (OOH) has worked diligently to promote use of sealants among both parents and providers. The Office has also tirelessly promoted fluoridation of public water supplies. Although legislative proposals to mandate fluoridation for most water systems have failed to pass in prior sessions, work continues on similar bills for the 2011 General Assembly. In the meantime, the OOH continues to work with individual communities and water suppliers to facilitate introduction of fluoride. As mentioned previously, oral health is also one of the priority health issues under the ADH Strategic Plan. A major contributor to the problem, access to dental services, is discussed in the following section.

With regard to adolescents in Arkansas, sexual health is a source of concern. YRBS data suggest that despite a variety of attempted interventions, rates of high school youth engaging in sexual activity have changed little over the preceding decade as seen in Attachment WW. Unfortunate consequences of this activity include sexually transmitted infections, such as Chlamydia. Rates of 15-19 year old females with reported cases of Chlamydia have risen dramatically in the past one to two years, shown in Attachment XX. In 2009, 15.2% of sexually active females in this age group seen in ADH clinics screened positive for Chlamydia. Looking at breakdowns by county, listed in Attachment YY, the highest positivity rates occurred in Crittenden, Prairie, and Jefferson Counties in eastern Arkansas. Chlamydia screening is performed routinely in ADH family planning clinics in accordance with American College of Obstetricians and Gynecologists and CDC guidelines. However, the recent upsurge suggests that expanded screening may be called for.

#### 3) Strengths and needs for children with special health care needs

#### Strengths for children with special health care needs

As mentioned elsewhere, the specialty medical care provided by the staff at Arkansas Children's Hospital and the University of Arkansas for Medical Sciences is excellent. A new campus of pediatric specialty services has opened in northwest Arkansas and is filling a tremendous need in that area. Outreach clinics in other parts of the state for specialty care remain in place with support from the Title V CSHCN program staff. As a small state, the network of professionals who serve CSHCN and their staff is smaller as well. This leads to the ability to develop relationships, work together on projects and initiatives and provide general support for programs to meet needs. An example of such is the project that Eldon Schulz, M.D., UAMS Section Chief, Developmental Pediatrics and Rockefeller Chair for Children with Special Healthcare Needs, has proposed to improve the system within the state for early identification of children

with special needs. With assistance from programs such as the Title V CSHCN program, the project should decrease the age of initial identification of special needs and improve the entry into early intervention services.

#### Needs for children with special health care needs

As a small state, Arkansas' relatively small Title V CSHCN program maintains staff in 16 offices statewide. The professional staff includes Registered Nurses and Social Workers who have many years of experience working with the medical and social needs of the children and youth we serve. This number has dramatically decreased over the past decade leading to inability of staff to maintain the level of communication which had been the hallmark of the program in years' past. This problem was highlighted in the public forums held around the state during the CSHCN Needs Assessment process. The predominant need mentioned from both the Public Focus Groups and the Employee Focus Groups was the need for improved communication. Twenty-three percent (23%) of issues discussed by participants in the Public Focus involved the need for improved communication which should be addressed by the Title V CSHCN program. Twenty-one percent (21%) of the issues discussed by participants in the Employee Focus Group involved the belief that there was not enough information provided to them from program administration. Other major issues of concern to both the public and employees providing input were related to the DDS Waiver, Education and School problems, availability of training, transportation difficulties and respite or the lack of respite.

Professionals informally surveyed also related the need for improvement in the infrastructure necessary for diagnosis of developmental delays in young children. Developmental screening done at the prescribed ages in a young child's life is an area that has been addressed with grant funding through the ABCD initiative in recent years. The ABCD III initiative is currently working on developing pilot sites to collaborate on closing the referral loop which will focus on the referral, access to appropriate treatment modalities and follow-up information provided to the referring professional. In addition, the CoBALT Project (Community-Based Autism Liaison and Treatment Project) has been proposed by Eldon Schulz, M.D., Professor and Chief of Developmental-Behavioral Pediatrics at UAMS College of Medicine and Arkansas Children's Hospital. This project will work with community-based physicians and other pediatric health professionals to complete assessments and possibly diagnose and make referrals for appropriate intervention services. The CoBALT Project would train and provide ongoing consultation to physicians and other pediatric health professionals to triage children with suspected Autism Spectrum Disorders into appropriate services while also serving as a resource for further evaluation deemed necessary by the community team. Utilization of the community-based evaluation will decrease the numbers of initial referrals to the University affiliated Developmental Centers and clinics. Decreased waiting time for those coveted appointments would be available for children whose developmental issues are more difficult to diagnose. The project, when implemented, should greatly improve the diagnostic network within the state.

### 4) Strengths and needs for women's health from youth to perimenopausal ages.

# Strengths for women from youth to perimenopausal age

With the focus on strengths for women's health, the preventive services provided by the Arkansas Department of Health are centered heavily in the statewide family planning clinics. This year, among Arkansas's 75 counties, 86 clinic sites including at least one in each county provided Reproductive Health (family planning) services. As with prenatal care described above, public health nurses at all 93 local health unit sites are trained to assist women in need of contraceptive services, and to refer them to local physicians or nearby family planning clinics at ADH. These clinics, like those for prenatal care, are attended by "circuit-riding" women's health nurse practitioners (WHNPs) who serve as the family planning clinician. These NPs provide family planning services according to ADH nursing policy and to Nurse Practitioner Protocols. Nursing policy is continuously being reviewed and updated and Nurse Practitioner Protocols are annually reviewed with the OBGYN physicians employed by the agency and updated as needed. Two OBGYNs serve as collaborative practice backup for the NPs as required by nursing licensure regulations. As with prenatal care, these NPs are supervised by Patient Care Leaders in each of five ADH Regional Offices. The Patient care leaders provide nursing and administrative oversight, and the OBGYN physicians provide clinical oversight. A Physician Specialist (a Board Certified OBGYN) travels the state to perform annual direct observations of the five WHNP Coordinators practices. In turn, the Coordinators provide clinical supervision of the remainder of the WHNPs on a twice a year basis. These assessments involve direct observation of NPs in the process of treating their clients, a review of a standard number of the NP's clinical records, and a face-to-face meeting about the NP's progress. These clinical assessments are shared with the region's Patient Care Director who performs administrative and nursing supervision. During the course of these clinics a Woman's Health Nurse Practitioner may see family planning and prenatal patients, and also see and treat women who have presented with a concern about a sexually transmitted infection for the STI Program. They also perform pelvic examinations, Pap smears, and breast examinations for the BreastCare Program. As BreastCare has grown, the number of women of perimenopausal age being seen by the WHNPs has increased. The NPs may individually assist these clients with other health concerns such as vaginitis, and in collaboration with a patient's physician the management of hormonal therapy for menopausal symptoms. The NPs are very familiar with health risks of women in this age category, and when they recognize a chronic illness, refer to local physicians.

#### Needs for women from youth to perimenopausal age

An estimated 766,174 women of ages 15 to 54 lived in Arkansas in 2008 (NCHS) of whom 563,914 were of ages 15-44. Among these women an estimated 26% of those 15-44 years and 27% of those 15-44 years were uninsured in that year. In 2008, among women 15 to 54, 1,604 died. The five most common causes of death to women of this age group were cancer, heart disease, unintentional injuries, suicide, and stroke. Among women of ages 15-54, the five most common non-perinatal causes of hospitalization, as reflected in hospital discharge data, were psychosis, uterine procedures (e.g. hysterectomy), gastrointestinal disorders, chest pain, and urinary tract infections. Also in 2008,

Arkansas's death certificate carried a checkbox allowing a physician to document that the woman's death had pregnancy as a contributing factor. In addition, any death of a woman of reproductive age that could be linked to a birth or stillbirth within a year after the birth event was reviewed for potential classification as a maternal or pregnancy associated death. In 2008, the number of Arkansas maternal deaths using the older coding system was 6, compared to 21 in 2009 as determined by the broader classification and added checkbox data. A careful review by the ADH Health Statistics Branch of these 27 death records indicated that nearly all of the increase in number of female deaths could be explained as resulting from the change in the classification system and the added checkbox information.

Adolescent pregnancies and births represent additional significant factors related to infant death. Since abortions are very rare in Arkansas, even for adolescents, the state monitors the rate of adolescent births, rather than pregnancies. In 2008, the death rate among infants delivered by teens 15-19 was 9.5 per 1000 live births to teens. In 2008, among a total of 40,489 live births, 5,915 occurred to teens of ages 15 to 19. Those numbers represented an adolescent birth fraction of 14.6% and a rate of 61.6 per 1000 adolescent females. Trends charted in Attachment ZZ show that for adolescents of ages 18 and 19, the birth rates fell between 2000 and 2003, rose to a slight peak in 2006, and dropped slightly thereafter. The birth rates for adolescents of 15-17 declined until 2005 and have leveled since. While it is reassuring that the younger teens have not increased their fertility, in 2008 even the 18 and 19 year-old mothers experienced an infant mortality rate of 9.2 per 1,000 live births compared to 7.6 for 20-24 year-olds.

During the strategic planning meeting convened by the HRSA office of DHHS Region VI in 2008, further data were gathered relative to the health of women. These data appear in the *Arkansas Strategic Partnership Session Report*, appended as Attachment M.

#### 4. MCH Program Capacity by Pyramid Levels

#### a. Direct Health Services

#### 1) Direct preventive and primary health services for pregnant women and infants

Family physicians' and obstetricians' offices provide most of the prenatal care in Arkansas. Of the approximately 1,700 family physicians, general practice physicians and obstetrician-gynecologists (OBGYNs) resident within the state, about 560 delivered one or more infants in Arkansas during 2008 (according to hospital discharge data). In general, family physicians serve the most rural communities, while the OBGYNs locate their practices in medium-sized towns and cities. The ratio of these physicians to the population is low by comparison with other states, and private prenatal care is extremely thin or absent in many communities. These represent locations for "gap-filling" services such as prenatal clinics in Community Health Centers (CHCs) and especially Local Health Units. Attachment U lists all Arkansas counties by health region. The community sites where LHUs provide prenatal care are indicated by a black star. While public health nurses in all counties have basic maternity training and are available daily

to help pregnant women find care, a full maternity clinic LHU service is not available in all counties. As of a survey in April of 2010, 54 maternity clinics were conducted in 49 counties. Attachment AAA depicts by county and quartile the number of prenatal patients served by their LHU. Attachment BBB tabulates by county the percentage of that county's resident live births who received late (after the first trimester) or no prenatal care according to 2004-2008 birth certificate data. Attachment CCC shows by county and quartile the rates of late prenatal care. The five counties with the highest rates of late prenatal care were Ouachita (42.6), Sebastian (39.7), Crittenden (38.1), Miller (36.3), and Crawford (31.0). ADH has local prenatal clinics in each of these counties, however, capacity in these clinics is limited, and many patients do not seek early care. Where clinics are conducted, public health nurses determine presumptive eligibility for Medicaid for Pregnant Women and pay attention to the details of patient education and referrals to WIC, social services, and high risk obstetrical care.

With regard to health care services for pregnant women and infants at risk, much is being done in Arkansas. The state's Medicaid program funds a special effort at perinatal risk identification and referral called Antenatal and Neonatal Guidelines for Education and Learning Systems (ANGELS). This program addresses regionalization of high risk perinatal care through the development and vetting of statewide guidelines for medical care, through 1) professional education concerning risk identification and referral, 2) a statewide telemedicine consultation service, and 3) a telephone hotline available to both doctors and their patients. This program began in 2003 and is still expanding in its service to patients and doctors over the state. A concentrated effort is being made to see that mothers in preterm labor get delivered in hospitals with neonatal intensive care services. The ANGELS evaluation is showing success at increasing the number of very low birth weight babies that are delivered at appropriate levels of care. The chart in Appendix DDD shows that in 2007, the ANGELS effort was rewarded with downturns in infant mortality for babies at birth weights between 1500 and 2499 grams. However, some very small premature babies are still being born in hospitals without maternal and neonatal intensive care.

# 2) Direct preventive and primary health services for children

An important component of access is availability of health care providers in a given locale. About 19% of the Natural Wonders survey respondents believed that lack of availability of providers (too distant, or too few) was one of the top child health problems in the state. Regional differences were noted: only 13% of respondents in central Arkansas (the location of Little Rock, with ample primary and specialty care services available) felt that the number of doctors caring for children in their area was below average. Meanwhile, 31% of Southeast Arkansas respondents felt this way, along with 28% in the Northwest, 27% in the Southwest, and 23% in the Northeast. Similar sentiments were voiced in the Natural Wonders Study Circles project, in which four out of the five groups reported shortages in their areas of both providers and facilities. Attachment EEE displays the actual distribution of primary care physicians (PCPs – including family physicians, general physicians, and pediatricians) in the state. Two counties (Cleveland and Lafayette) have no resident PCPs, while in most others the ratio of PCPs per 1,000 0-18 year olds is less than 3.0. Better coverage occurs in counties with larger towns and cities, such as Washington, Craighead, Jefferson, Sebastian, Garland, and Union. Not surprisingly, Pulaski County, which contains Little Rock, has the best ratio of PCP's to 0-18 year olds. Looking at pediatricians

only, Attachments FFF and GGG demonstrate that over half the counties in the state (39) have no pediatrician, 35 others have varying numbers, and Pulaski County has the most (2.2/1,000 children). Of the 217 pediatricians in Pulaski County, however, many are <u>subspecialists</u> employed through UAMS and housed at Arkansas Children's Hospital. Most counties lacking a single pediatrician would welcome one. However, the small child population in many of these counties (often <2,000) tends to discourage pediatric clinicians from opening a practice.

Apart from private practices, some primary care for children is provided through community health centers. In Arkansas, most CHC's are located in the eastern half of the state as shown in Attachment HHH. These centers are staffed primarily by family medicine physicians, although a few employ pediatricians. However, all these clinicians would be included in the numbers and maps described above.

Direct primary and preventive health services for children are extremely important. Provision of increased pediatric preventive services was the most popular theme voiced by participants in the child health stakeholders' meeting. Specifically, participants wanted to see major increases in EPSDT assessments conducted by PCPs, including developmental and social-emotional screening. Available data suggest that children enrolled in Medicaid do utilize at least some of the services available to them, as over 93% received at least one Medicaid-reimbursed service in 2009 and preceding years, shown in Attachment III. On the other hand, only about 85% of enrolled infants received at least one EPSDT screen in 2009, shown in Attachment JJJ. While it is encouraging that this measure shows an upward trend, up to six screens are recommended and reimbursed for this age group, so this figure should really be very close to 100%. The proportion of eligibles receiving even three screens during infancy would likely be much lower, and much more telling. Numbers of EPSDT screens performed by county for all ages are displayed in Attachment FFF. Over 228,000 EPSDT screens were reimbursed statewide during the 2009 calendar year. Since different numbers of EPSDT visits are authorized by Arkansas Medicaid for different ages (e.g. 6 in the first year, 3 in the second year, none at ages 7 and 9), and due to other limitations as well, no attempt to provide a true screening "rate" for each county has been made. However, it is likely that the same counties in which primary care providers are in relatively short supply would be the ones with the lowest EPSDT screening rates. Physicians who are already overworked seeing sick individuals are much less able to spend the extended amount of time and effort needed for preventive care, and they also may not perceive a financial benefit to doing so. Thus, creative approaches involving physicians/providers, third party payers, medical schools and physician training programs, ADH, and other child advocates are needed to increase capacity for preventive services.

An alternative location to provide preventive services is in schools. The child health stakeholders suggested creation of comprehensive school-based wellness centers throughout Arkansas. The Natural Wonders survey found that 79% of respondents either strongly or somewhat agreed that primary health services should be provided in schools. The Natural Wonders Study Circles also consistently suggested establishment of school-based health programs to address a variety of health issues (e.g. poor diet, lack of exercise, substance abuse, prenatal care, motor vehicle injuries). At this time there are very few direct clinical services provided in Arkansas schools, apart from those in a few individual schools that

have taken the lead on their own, such as Central High in Little Rock. However, the excise tax on tobacco products passed in 2009 will provide for establishment of 8-10 "Wellness Centers" in certain schools that are already part of the Coordinated School Health (CSH) initiative. (The CSH process is discussed further under Infrastructure-Building capacity.) The sites for the Wellness Centers are expected to be announced by July 1, 2010, with startup during the 2010-11 school years. Selected schools will be expected to provide both medical and mental health services in a system that respects and fully collaborates with the student's medical home.

With respect to pediatric subspecialty care, most is centered in Little Rock. There are a few pediatric subspecialists in a few larger cities, for example, allergists, gastroenterologists, and pulmonary specialists, but most subspecialty care is provided through Arkansas Children's Hospital (ACH). ACH is a tertiary care center that provides advanced services such as extracorporeal membrane oxygenation, infant and child cardiovascular surgery (including transplants), and care of severe burns. Utilizing physicians employed by UAMS, the hospital offers a large number of primary care, subspecialty, and multidisciplinary outpatient clinics. ACH also has a satellite site in northwest Arkansas (at Lowell), and offers a number of regional specialty clinics (Cardiology, Genetics, etc.) at remote sites around the state to reduce travel time for patients. Apart from ACH, some patients in border counties who need subspecialty care are referred to centers in surrounding states. For example, some children from eastern Arkansas may be referred to LeBonheur Children's Hospital in Memphis. Infants and children from northwest Arkansas are sometimes referred to the medical center in Tulsa, and those from the Texarkana area may be referred to LSU-Shreveport or even Dallas.

Lack of dental services for children is a common theme heard in Arkansas. As mentioned previously, the child health stakeholders group listed the need for better preventive dental services as a high priority. Participants wanted to see efforts at dental screening made more accessible. The Natural Wonders Study Circles and the medical provider focus groups also mentioned lack of dental service providers as a significant issue. Overall, Arkansas ranks 50<sup>th</sup> out of 51 states and D.C. in dental providers per capita, with about 40 dentists per 100,000 people compared to a national average of 60/100,000. Attachment KKK shows the distribution of general and pediatric dentists in the state. Over 60% of the state's dentists practice in just eight counties. Five counties, Newton, Calhoun, Cleveland, Lafayette, and Lincoln, have no dental providers at all. Another 59 counties have less than 1.5 dentists per 1,000 children 0-18 years old, making these shortage areas as well since general dentists provide virtually all the care for children in these counties. The remaining 11 counties probably have an adequate supply of dental providers, with larger population counties such as Pulaski, Sebastian, Garland, and Craighead having the highest provider/population ratios.

One encouraging trend with respect to dental services is that an increasing percentage of EPSDT participants have received dental services paid through Medicaid. Attachment LLL shows this proportion increased from 41.0% in 2004 to 59.3% in 2009. Still, overall access remains poor. Largely in response to the observations and suggestions collected through the Natural Wonders assessment process, Arkansas Children's Hospital has recently purchased and equipped two large mobile dental units that will travel the state offering both preventive and restorative dental services to children. Other

co-sponsors of these vans include Delta Dental, Ronald McDonald House Charities, and Tyson Foods. To address the shortage of dentists, UAMS is reportedly discussing the feasibility of adding a dental school, admittedly a long-term strategy. Nonetheless, all agree that access will certainly not improve until more providers exist within the state.

Mental health services for children and adolescents in Arkansas come from a variety of sources. In larger cities, private practice psychiatrists, clinical psychologists, and an array of other licensed providers offer counseling services for youth. As elsewhere in the U.S., the supply of child psychiatrists in the state is extremely thin. Most of these reside in Little Rock, and many are employed through the UAMS Department of Psychiatry. That department offers both inpatient and outpatient services for disturbed children, particularly the more severely affected. A number of private inpatient and outpatient facilities for children and youth exist around the state, many of which receive state support through Medicaid and other DHS funds (see Attachment MMM). Many of the inpatient programs have specific treatment plans and units for issues such as substance abuse, sexual offenses, mood disorders, and various forms of psychosis. As with primary care and dental services, access in general is best for children in larger urban areas and for those with health plans providing coverage for such services.

#### 3) Direct services for children with special health care needs

The Title V CSHCN program continues to provide "gap filling" assistance in the form of payment for specialty direct health care. The program no longer sponsors clinics as was done in decades past; however, the financial assistance to pay for the direct care provided at Arkansas Children's Hospital and other specialists around the state is ongoing. During the most recent fiscal year, the program assisted in payment for acute or specialty care for 965 children and youth. Among the groups covered were children and youth who have Medicaid coverage through ARKids B (the SCHIP program), but lacked the coverage for hearing services and hearing aids, orthotics, therapeutic intervention such as physical and occupational therapy, and assistance with PKU food products. Other assistance was provided to CYSHCN with mobility issues and the need for wheelchair ramps to their home or lifts in the family van to assist with transportation. A significant number of the children and youth served were served only to assist the family in financing the services required to obtain a diagnosis of a new health condition. This coverage is provided regardless of the later determination of financial ineligibility for ongoing services. For those children and youth who continue to receive ongoing program financial support for direct services, coverage is available for assistance with the cost of physician services, inpatient and outpatient hospital care, radiology, laboratory, prescription medications and medical supplies, and durable medical care. Continuous screening is done to assure that individuals that are eligible for Medicaid coverage obtain that coverage. The program currently covers approximately 90 undocumented children and youth with special needs paying for eligible services required for their diagnosis. Most recently, 21% of the budget was utilized by this population who make up 10% of the caseload. The CSHCN program also pays for medical camps for eligible CSHCN each summer to provide the opportunity for the children and youth to attend summer camp with other individuals who experience the same type of health issues.

### 4) Direct services for preventive and primary care for women from youth to perimenopausal ages

The number and distribution of physicians in Family and OBGYN practices have been described above in the section on primary and preventive services for pregnant women and infants. However, compared to services for prenatal care, those for women from youth to perimenopausal ages are more diverse. Family practices typically follow their female patients through adolescence and beyond, unless the practice does not perform obstetrics, in which case the young woman is referred to an OBGYN physician. Healthy women in their reproductive years, if not pregnant, postpartum, or breast feeding, may seek regular medical care for contraceptive services. Many women or their partners who have strong feelings about pregnancy prevention do not, especially if their health knowledge regarding cervical cancer prevention through Pap smear testing is limited. In recent years, the gynecological evidence base for the optimal frequency of performing pap smears, especially in the light of the advances in liquid preparation of the sample followed by automated review, has helped physicians to see that pap smears need be done less often. Recent guidelines have recognized that adolescents do not need pap smears until age 21 because even positive smears are very unlikely to lead to malignancy in this age group and they very frequently resolve spontaneously. The American College of Obstetricians and Gynecologists leaves the decision on Pap smear frequency up to the physician and the patient, especially when a few repeat tests show normal results. While OBGYNs still recommend annual checkups for young women, this guideline is often not followed. So gaps in access to care, especially for low income women, occur between pregnancies and after childbearing. The scientific evidence base is growing to support preconception and inter-conception health counseling; however, if women are not attending medical care regularly, this service can't be provided in doctors' offices. So the ability to receive this kind of health counseling must lie in many other locations where women pursue their lives on a daily basis. We are only now beginning to design health awareness and counseling interventions that can reach women throughout their lives. School, work and church settings are increasingly taking active approaches toward health counseling for women. So far, the ADH has made the most progress in work-based health education programs for both men and women, especially for chronic health risks such as smoking, obesity, and diabetes. As more attention has turned to improving physical activity and the reduction of calorie and fat dietary intake, the prevention activities have turned to community based sources of care, and to environmental change. Some of these proposals will be discussed in the section below on population based and infrastructure building services.

### b. Enabling services

# 1) Enabling Pregnancy and infant services

The primary enabling services existing in Arkansas for pregnant women and infants include Medicaid health insurance coverage and the Women, Infants and Children Supplemental Nutrition Program (WIC). Arkansas Medicaid for Pregnant Women (MPW) provides a broad benefit package to women with incomes up to 200% of poverty, but ceases coverage at 42 days after the delivery. The AR Kids A and B programs for children (EPSDT and SCHIP) provide a broad benefit package for infants and children up to 200% of poverty. Recent policy initiatives and public awareness efforts have driven at increasing

eligibility for children up to 250% of poverty, but this has been delayed due to economic difficulties in the state and particularly with Medicaid expenditures across its general client population. The WIC program has shown steady growth in number served as poverty has risen with economic slowdown. It too, has been pressed to remain within its budget. Despite this, Arkansas WIC has made great strides in the development of Value Enhanced Nutrition Assistance (VENA) and the application of a new information system called SPIRIT. As Arkansas has begun to focus on reducing its infant mortality rate, the health care evidence base has been reviewed as shown in Attachment C for interventions not yet tried in our state. While public health nurses in prenatal clinics perform some elements of case management, Arkansas has not developed a true prenatal care coordination service. ADH is looking for opportunities to initiate this service, perhaps as a pilot project. A somewhat similar service is provided by the ADH In-Home Services Branch called the Maternal and Infant Program. Reimbursed by Medicaid, this program provides home visits by home-health nurses with a strong interest in young mothers, targeting teens and low-income, first-time pregnant women. MIP nurses make home visits up to four times prenatally, and four times after delivery. The nurses can follow the mother-infant pair up to 6 months after delivery to assure a healthy start in life for the babies and a quick return to employment for the mothers. During the course a year, MIP nurses make roughly 19,000 visits to about 4,000 mother-infant pairs. While this service follows a different model from the national Family-Nurse Partnership Program, it is less expensive.

# 2) Enabling child health services

One of the most important enabling services relevant to child health is the ConnectCare program, administered through the Health Connections Section of the ADH Family Health Branch. Funded solely through contracts with Arkansas Medicaid, ConnectCare links Medicaid and ARKids recipients with primary care physicians. Up-to-date information on provider availability is received from Medicaid on a frequent basis to enable the program to make assignments for new enrollees as well as PCP changes for established recipients. The program has a toll-free phone number and sufficient staff to allow one-on-one service for recipient families. Spanish-speaking staff members are always available to serve Hispanic clients. ConnectCare additionally sets up dental appointments for recipients upon request. In FY2009, a total of 47,504 PCP assignments were made (all ages), and nearly a thousand dental appointments were set up for children 0-18, shown in Attachment OOO). Interestingly, relatively more PCP assignments occurred in northwest Arkansas (e.g. Washington and Benton Counties) than in central and eastern parts of the state. Despite being relatively more affluent, this part of the state has had difficulty attracting and retaining sufficient *Medicaid* primary providers to meet the needs of its expanding population. The area also boasts a burgeoning Hispanic population, and this sub-population is believed both to need and utilize ConnectCare services more often.

Among those eligible for Medicaid/ARKids, ongoing barriers to primary care access include lack of knowledge regarding eligibility limits and requirements and the critical need for all enrollees to select a PCP. Some users of ConnectCare services have reported that local Department of Human Services offices did not always completely answer their questions and concerns. ConnectCare thus plays a vital role both in provision of information and in actually establishing a link between doctor and patient. An

important emerging issue has to do with the upcoming expansion of ARKids income eligibility limits to 250% FPL. This movement, while positive overall, will exacerbate the relative shortage of primary care providers available to ARKids patients. ConnectCare will handle more requests for PCP assignment, and the wait times for first appointments may well increase, particularly in certain already stressed regions (such as northwest Arkansas).

Another enabling service, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), is administered through a separate branch of the ADH Center for Health Advancement. The Family Health Branch attempts to work closely with the WIC program, including reviewing and providing medical back-up for WIC policies. Certain clinical positions in local health units are supported by a mix of Title V and WIC funds. In 2008, WIC served about 56% of children 0-4 throughout the state. This proportion varied quite a bit geographically, ranging from a low of 34% in Faulkner County to a high of almost 100% in Lee and Monroe counties, shown in Attachments OOO and PPP. As might be expected, the former county has a relatively high income per capita, whereas the latter counties are in the Delta and have high unemployment rates and low educational attainments. Simply stated, the continuing challenge for the WIC program is to provide as much nutritional support as possible to as many needy children and families as possible. With respect to access for these services, financial eligibility is determined by federal standards. Same-day scheduling of WIC appointments is now occurring in some health units. While this practice is beneficial to most clients, confusion about the new scheduling "rules" among both ADH staff and clients initially led to actual delays in appointment-scheduling in some instances. However, these issues have been addressed. In other health units, the staff attempts to adhere to the 10-day standard (maximum time from call to appointment date), but in some counties personnel shortages have hindered attainment of this goal. Cultural barriers to WIC service provision are exemplified by the difficulties encountered in serving the Marshallese population in northwest Arkansas. Professional translators skilled in the language spoken by these people are hard to locate and retain. Further, this culture has very few people who read and write the language, making development of educational brochures in Marshallese an almost futile endeavor. As for Spanish-speaking populations, contract translators serve local health units most in need. Funding to support these translators is provided by a mix of contributions from various agency programs. Written WIC materials in Spanish are available in every health unit. A major emerging issue for WIC is an ever-increasing caseload, presumably related at least in part to the major economic recession of 2009. Fortunately, although recipients have increased, the cost of food products has gone down, so no major revisions to program benefits have been necessary to date. The new Food Package implemented in September 2009 may cause some issues in that regard as well, but more time is needed to gauge its impact. Arkansas WIC has received a grant from USDA to plan for implementation of the electronic benefit transfer (EBT) system. This system allows WIC participants to keep a "debit card" which is swiped when purchases of WIC products are made, and can tell them with each purchase how many of each of the approved products are left. This system will probably be implemented in Arkansas in the next two years and should lead to improved convenience and accounting and possibly to reduced stigmatization of participants.

Translation services have proven to be a continuing challenge for ADH as increasing numbers of Hispanic and Pacific Islander populations have immigrated to the state. As related above for the WIC program,

translators on contract to the Department help tremendously in serving Spanish speaking clients. However, these individuals are not certified as medical translators, leading to concerns that full messages are not always delivered as intended. In cases in which on-site translation may not be readily available, local health unit personnel can dial a "hot line" to reach a Spanish-English translator housed in the central office. For written materials such as brochures and fact sheets, most agency programs employ contract firms to provide translation.

Health education is an activity conducted continuously and ubiquitously by all programs serving children through ADH. ConnectCare provides brochures, fact sheets, and health-related articles in newsletters to Medicaid recipient families. The immunizations program also provides copious written and verbal information to parents before and between immunizations, and has sponsored public service announcements related to flu and other vaccine-preventable disorders. Similarly, WIC provides verbal nutrition counseling and written materials at every visit. The newborn blood spot and hearing screening programs both provide pre-screening information to new parents. Parents whose infants screen positive for hemoglobin traits and other disorders receive fact sheets generated by the program. In short, any MCH program that impacts individual families is involved in continuous health education. ADH program personnel are also involved in collaborative health education projects with outside entities. For example, the "Happy Birthday Baby Book" sponsored in conjunction with DHS and a variety of private partners provides helpful information to new mothers on care of infants. Injury prevention materials are often shared between the Injury Prevention Branch and the Arkansas Children's Hospital Injury Prevention Center. The newborn screening program supplies birthing hospitals with brochures developed by March of Dimes and "co-branded" with the ADH logo.

#### 3) Enabling services for children with special health care needs

The Title V CSHCN program staff provides case management and care coordination for CSHCN and their families in Arkansas. CSHCN staff members currently work with approximately 1,400 CSHCN and their families by providing care coordination assistance. The assistance includes intake and referral for other programs and services such as those offered by the Division of Developmental Disabilities Services (DDS). These include assisting with the application for the Home and Community Based Waiver serving individuals with Developmental Disabilities; assisting with location of, and application for placement in, intermediate care facilities upon request; and assistance with other DDS program applications as appropriate. Over the past year, significant time has been spent on the development and implementation of two time-limited programs operated through DDS: the Special Needs Autism application and the American Recovery and Reinvestment Act program developed within the Department of Human Services to provide assistance with home and vehicle modifications for individuals with mobility issues. The Title V CSHCN program has set aside funds for the Family Support/Respite program in which families apply for assistance in purchasing services required for the CSHCN that are not covered through any other means. Families have requested assistance with payment for therapeutic services for children diagnosed with Autism, purchase of specialty foods, supplements, equipment and respite services.

### 4) Enabling services for women from youth to perimenopausal ages

Family Planning (Reproductive Health) services are the most important preventive health services for women. Family Planning could be described under direct care, but because it reaches out to women of all reproductive ages statewide, serves as a primary portal of entry for all women's health services, addresses healthy women and enables them to control their fertility as desired, we are addressing it in The Arkansas Reproductive Health Program serves about 74,000 women annually. It provides a comprehensive health history and physical exam, including pelvic and pap smear; a moderately wide selection of contraceptive measures; and follow-up through the course of the subsequent year as appropriate for each contraceptive type. Public Health Nurses provide the basics of family planning care, and Women's Health Nurses provide clinician's care. During the course of these clinics, several other women's health services are provided including breast and cervical exams, pap smears, assessment for other chronic diseases, and referrals to local providers when health conditions are identified. Particularly, these clinics provide screening for breast and cervical cancer and refer to the BreastCare Program in the ADH Chronic Disease Branch, Center for Health Advancement. In addition they screen for sexually transmitted diseases and refer to the STD/HIV Program in the ADH Center for Health Protection. An especially important feature of Reproductive Health is its Women's Health Waiver. Funded through Medicaid by an 1115 waiver, this program provides Medicaid coverage for family planning services including annual exams, pap smears, a contraceptive method, and referrals to other providers for identified health problems. A research evaluation of this program shows clear and increasing impacts to prevent unintended births. The Waiver has delayed first pregnancies and increased inter-birth intervals, shown in Attachments QQQ and RRR.

#### c. Population-Based Services

#### 1) Population based services for pregnant women and infants

Among population-based services for pregnant women and infants, the *Healthier Babies Campaign* and an associated book, the *Happy Birthday Baby Book (HBBB)*, promote public awareness of the need for prenatal care and provide basic health information about pregnancy and newborn babies. In addition, the HBBB provides redeemable vouchers for products such as breastfeeding equipment for mothers and diapers and clothing for babies. The book has been very popular, even among women not attending public health clinics. The campaign is a collaborative effort of the ADH, the Department of Human Services, St. Vincent's and Baptist Hospitals, a contracted communications firm, and much donated air time and newspaper space in local media. The campaign also supports the *Healthier Babies Hotline* that distributes the handbook, and provides information on locally available providers of prenatal care. While other general media attention to the health of pregnant women and infants tends to be more episodic, Arkansas's newspaper and television outlets are quick to inquire about and comment on the many public announcements of Arkansas's rank with respect to infant mortality and low birth weight, when those ranking are publicized nationally, and when states are nationally graded on their public policies for many health issues. The Public Information Office of ADH is particularly skillful at organizing an articulate response to media inquiries related to relevant health data, and has developed a good

backup system to assure availability of the latest numbers and rates produced by the Health Statistics Branch, the latest analysis from the ADH Epidemiology Branch, and the most expert comments from appropriate Program Directors. Finally, major public awareness efforts through the "SOS" Campaign against tobacco use, and an extensively used QuitLine smoking cessation service has been very actively targeted especially to pregnant women and to youth of both genders.

#### 2) Population based services for children

One of the key population-based services for children is newborn screening (NBS) for metabolic disorders. In Arkansas, the Department of Health oversees assurance of specimen collection shortly after birth, initial laboratory analysis of all specimens, and reporting of positive results. ADH program follow-up nurses track positive results through diagnostic testing and assurance of definitive care for those diagnosed with a disorder. Rules and regulations for the program are promulgated through the Arkansas Board of Health. In July 2008, the program expanded from screening for six disorders to screening for all 28 "core" metabolic disorders recommended by the American College of Medical Genetics. To achieve this expansion, robust partnerships with UAMS Department of Pediatrics and Arkansas Children's Hospital (ACH) were formalized. Examples of these partnership activities include a contract with UAMS to provide pediatric Metabolic Genetics, Endocrinology, and Pulmonology consultation for positive screening results; provision of a Newborn Screening Coordinator position housed in the UAMS/ACH Division of Genetics to facilitate coordination of follow-up; and routine sharing of positive screening results directly between ADH follow-up staff and subspecialty staff at UAMS/ACH. There is also a Memorandum of Agreement between ADH and ACH providing for the latter to perform secondary screening tests on specimens initially positive for cystic fibrosis and congenital adrenal hyperplasia. There are constant communications between all these entities on both individual infants and the system as a whole. A subcommittee of the Arkansas Genetic Health Committee specifically devoted to newborn screening includes representatives of ADH, UAMS, ACH, private hospitals, the AR Chapter of the American Academy of Pediatrics, the state March of Dimes, parents, and others.

Newborn blood spot screening, as mandated originally by Act 192 of 1967, is available wherever infants are born in the state. Most births occur in the 45 hospitals having labor and delivery units (see Attachment SSS). However, a smattering of births occur in counties lacking birthing facilities, either at home, through lay midwives, or in hospital emergency departments (see Attachment TTT). By rule, the latter entities are also responsible for submitting newborn screening specimens. Completeness of screening is usually in the 98-99% range statewide, and is routinely assessed through an electronic linkage between vital records and the NBS laboratory data system. NBS program activities, including supplies, laboratory analysis, and follow-up, are funded solely by a fee charged for each specimen. Submitting hospitals and other providers are currently charged \$89.25 for each specimen submitted to the Public Health Laboratory. This fee had to be raised substantially in 2008 to cover the costs of program expansion. The fee does not provide for special metabolic formulas or foods for affected infants detected through the program.

An equally vital form of newborn health assessment is infant hearing screening. Act 1559 of 1999 specifies that hospitals delivering more than 50 newborns per year must perform physiological hearing screening prior to the infant's discharge. Fortunately in Arkansas, all hospitals that deliver babies meet the >50 births/year standard. In 2008, 38,725 initial screens were performed, encompassing about 98% of all occurrent births. The Department of Health is charged with following up reports of failed initial screens and assisting in assuring re-screening of these babies. Babies who fail two hearing screens must receive diagnostic audiologic testing through an approved provider. The Infant Hearing Program works with PCPs and parents to facilitate arrangement of these diagnostic appointments. Providers of diagnostic services are required to report their findings on individual infants to the program. Under federal Child Find legislation, the program then reports all infants diagnosed with hearing impairment to the state Early Intervention Services (Part C) program, which is housed in the DHS Division of Developmental Disabilities. A Memorandum of Agreement between the two agencies now stipulates that the Part C program will furnish follow-up information back to the Infant Hearing Program. The program also works closely with audiologists at Arkansas Children's Hospital (the primary supplier of infant diagnostic hearing services in the state) and UALR, as well as with deaf/HH and disability rights advocates in Arkansas. An advisory board prescribed by the original enabling legislation (which includes these individuals and others) meets semi-annually and is coordinated through ADH. Newborn hearing screening is conducted through birthing hospitals, all of which purchase and maintain their own screening equipment. Screening hospitals are free to bill Medicaid and private insurance for screens they perform. Follow-up program activities are currently funded exclusively through an amalgam of federal grants from both CDC and HRSA. In the disappointing absence of state support, these funds are absolutely vital to the continued conduct of this program in Arkansas.

Immunizations for children are coordinated through the CD/Immunizations Section in the Center for Health Protection. This program has administrative responsibility for policy development and oversight of all immunizations provided in ADH local health units statewide. The program also administers the Vaccines for Children (VFC) program, which supplies vaccines to over 500 non-ADH providers for children 0-18 without health coverage. Additionally, the program promulgates immunization rules and regulations for child care facilities, public and private schools, and colleges and universities. These rules, which are published under the authority of several Arkansas laws (A.C.A. §§ 20-7-109, 6-18-702, 6-60-501 – 504, 20-78-206), require frequent revisions. The program also maintains a statewide immunization registry known as the Immunization Network for Children. Users of INC include a number of VFC and non-VFC private and public clinics, who are able to both view and enter data on vaccines administered. Other users include almost 1,300 schools and 260 child care centers that have "view-only" access.

An example of immunization program capacity is that over 400,000 doses of vaccine were administered in ADH local health units alone to children during 2009 (Attachment TTT). In recent years, an increasing proportion of childhood vaccinations have been delivered through private providers rather than in local health units. In 1999, 27% of vaccinations were given by non-ADH (private) providers, but this fraction increased to 58% by 2008, shown in Attachment UUU. Reasons include increased participation in the Vaccines for Children program, perhaps along with an increased appreciation for the medical home concept. Instances of immunization program coordination and collaboration with other groups are

myriad. The CD/Immunizations Section routinely shares information with VFC providers on updated immunization recommendations and programmatic shifts. Program personnel participate in a statelevel Vaccine Medical Advisory Committee, which also includes representatives from UAMS/ACH, the AR Chapter of the American Academy of Pediatrics, Arkansas Academy of Family Physicians, the state Medicaid office, Arkansas Foundation for Medical Care, and others. The program's medical director sends out a weekly "blast email" to hundreds of physicians and other medical providers which covers both immunization and infectious disease topics. The program works closely with the State School Nurse Consultant, whose salary is shared equally between the Departments of Education and Health. This individual is currently preparing an updated version of the school infectious diseases manual in conjunction with CD/Immunizations. Another collaborative effort is the Guardian Angel Project, in which Immunizations and St. Vincent Infirmary Medical Center in Little Rock share salary costs for a registered nurse who provides vaccinations in child care centers in the Little Rock metro area. Perhaps the most impressive coordinated/collaborative effort in recent memory is the campaign to vaccinate school-age children for influenza in the fall of 2009. This effort was initiated by the Governor and funded through the excise tax passed earlier that year. Although originally designed to provide seasonal flu vaccine, the program expanded to include H1N1 immunization as this vaccine became available. Working through a state level Mass Flu Work Group and utilizing countless partnerships at the local level, a total of over 300,000 doses of seasonal and H1N1 vaccine were administered in schools between available in every local health unit in each county. Although local unit policies may vary slightly, typically immunizations are given without requiring an appointment. Children receiving WIC services have their immunization status checked at every visit as a matter of policy, with shots then given as needed. Family Planning and post-partum clients seen in local health units may also receive MMR, TdaP, and varicella vaccination(s) if needed. The program supplies all birthing hospitals with sufficient Hepatitis B vaccine to provide all newborns their initial dose. Funding for Immunization program activities comes chiefly from federal sources. About \$35 million per year comes from CDC to support Vaccines for Children and non-VFC (discretionary Section 317) activities. A smaller CDC grant (about \$3 million) supports program operations. "State" funding sources include Medicaid reimbursements and fees directly collected from administration of flu vaccine, which together add about \$2 million per year. State general revenue contributes less than half a million dollars a year to program support.

Injury prevention activities are housed within the Center for Health Protection as a separate branch. The Injury Prevention and Control Branch recently hired a director following several years of this position being vacant. The new director has been very involved in helping to establish rules and regulations for the statewide trauma system, development of which was mandated by the state legislature through Act 394 of 2009. Plans include a new statewide trauma registry that will provide more detail on injury victims than currently available. The trauma system act also includes funding for primary injury prevention. Plans include hiring injury prevention health educators for all regions in the state to be based in Area Health Education Centers (in collaboration with UAMS). A branch epidemiologist position is also being advertised. Other branch personnel include an injury prevention coordinator and a traumatic brain injury services development coordinator. The Injury Prevention Branch is the lead agency for "Parents are the Key," a motor vehicle crash injury reduction measure

designed to educate parents (and teens) about recently passed laws such as graduated driver licensing, primary enforcement seat belt law, ban on cell phone use while driving for those <21 years, and ban on text messaging for all drivers. The program has developed PSA's, held a kickoff press conference, and placed educational materials in churches, beauty salons, and other frequented locations. As part of the promotion, parents and teens are encouraged to sign a "contract" promising compliance with these new laws.

The Injury Prevention Branch coordinates closely with other federal, state and local agencies in sharing of information and cross-referrals. Examples of these groups include UAMS, Arkansas Children's Hospital, AR Fire Prevention Commission, AR Safe Kids, AR Traumatic Brain Injury Advisory Board, Consumer Product Safety Commission, Disability Rights Center, Developmental Disabilities Council, and other disability-related groups. The branch provides presentations to any group upon request, and has arranged special promotions as the need has arisen (e.g. visual smoke alarm giveaways to the hearing impaired). Services are provided at the state level, but are often based on local needs at a given time. For example, community-specific injury data have been provided to Hometown Health Improvement coalitions on request. The branch issued a request for proposals to Hometown Health coalitions to fund local activities as part of National Fire Prevention Week. Information and materials on specific injury concerns has also been provided to Coordinated School Health sites as needed. All operations at the state level for the Injury Prevention Branch come from state general revenue at present. The excise tax on tobacco products passed in 2009 funds trauma system development and its attendant primary prevention activities. With respect to childhood injury prevention, special mention must be made of Arkansas Children's Hospital (ACH). The hospital, along with faculty and staff employed through UAMS, has made injury prevention a high priority. The Injury Prevention Center housed at ACH targets motor vehicle injuries through conducting regular safety seat inspection events in Little Rock and elsewhere, facilitating training of inspectors around the state, and providing year-round presentations and educational materials on seat belt usage and ATV safety. The group has also targeted other injuries such as house fires/burns, drowning, and poisoning. ACH conducts research on effective injury prevention strategies and maintains data on injuries admitted to ACH as well as state-level data. ACH has been the home site for AR Safe Kids for almost a decade and has helped several local Safe Kids coalitions become established. Even though ADH is the lead agency, ACH is the actual main sponsor and actor for the "Parents are the Key" promotion. Perhaps most importantly, ACH (with UAMS support) has also been a leading, highly influential advocate for many of the child safety-related pieces of legislation passed in recent sessions.

The ADH Office of Oral Health (OOH) exists as a distinct branch within the Center for Health Advancement. Program staffing includes a dentist, a program manager, program coordinator, budgets administrator, and a 0.5 FTE epidemiologist. The OOH devotes much of its resources to promotion of fluoridation of public water systems and use of dental sealants. As mentioned before, the program works with community public water systems to encourage them to fluoridate. Funding for necessary fluoridation equipment is available through the Delta Dental Foundation, so the major determinants for participation are community interest and political will. In the past 10 years, program efforts have resulted in an increase in the percentage of people on public water systems whose water is fluoridated

from 49% to 64.5% shown in Attachment VVV. Another preventive activity is the "Seal the State" dental sealant program. Formerly conducted exclusively by OOH, this effort is now a partnership with Arkansas Children's Hospital (ACH). The project is currently targeting second graders in every Coordinated School Health school in the state. ACH provides dental professionals and OOH supplies a dental assistant (the program coordinator) as well as all the necessary equipment to set up in each school. Funding to support Office of Oral Health activities comes largely from CDC grants. The director and program manager positions are supported by state general revenue, but no state funds support programmatic activities *per se*. A HRSA-funded project conducted through the office is described later under Infrastructure-Building Services.

The Child and Adolescent Health Section has traditionally provided a very small amount of (MCHBG) funding each year to the State Crime Lab/Medical Examiner's Office to help support performance of autopsies on babies who die unexpectedly (SIDS/SUID). In return, the ME's Office provides feedback in the form of preliminary and final autopsy reports to the Section. In CY2007, reports were received on 57 infants with a final diagnosis of "SIDS." Attachment TTT shows their distribution by county. Family Health has recently been collaborating with the ME's Office on the overall issue of infant mortality reduction. The ME's Office is currently engaged in a concerted effort to improve death scene investigations by local coroners who respond to unexpected infant deaths. In the absence of a thorough death scene investigation, or based on key information gathered as part of such an investigation, the ME has already begun coding certain infant deaths as Sudden Unexplained Infant Death (SUID) as opposed to SIDS. Therefore, apparent decreases in Arkansas "SIDS" deaths in current and future years may be largely explained by this change in coding practice. Receipt of autopsy reports allows ADH the opportunity to offer so-called "SIDS counseling" to affected families. Public health nurses (PHNs) in the infant's county of residence are notified of the diagnosis by the coordinating nurse in the central office and asked to make contact with the family. If desired by the family, the PHN will provide additional information and may make a home visit. Barriers to continuation of this service include lack of ongoing training of PHNs in SIDS counseling due to lack of resources. Many PHNs are also generally uncomfortable providing this type of counseling. Although in theory the service is available statewide, these factors contribute to low actual provision.

Capacity for blood lead screening in Arkansas resides almost entirely with primary care physicians (PCPs) at present. PCPs conduct blood screening as part of routine EPSDT exams at 12 and 24 months of age, as prescribed by Medicaid. In the relatively rare case of a child who needs a lead hazards investigation carried out at their residence, local or sometimes state public health environmental specialists are typically available to help. Private contractors have also been certified by the Department of Environmental Quality to conduct lead inspections and perform abatements as needed. Lead levels of 10 mcg/dl and above in children must be reported (by the assaying lab and MD) to the Epidemiology Branch in the Center for Public Health Practice. These reports are routinely shared with Family Health Branch staff. Since all reports of "negative" screening results are not required, the true prevalence of childhood lead exposure throughout Arkansas is uncertain. However, data obtained from screening conducted through the general pediatric clinic at Arkansas Children's Hospital (encompassing mostly Medicaid recipients) in 2008 show that only about 0.3% of 1-2 year old central Arkansas children have

blood lead levels ≥10 mcg/dl. Public health nurses perform personal lead risk assessments using a short questionnaire on WIC children, and refer those with positive responses back to their PCPs. The Department of Health Public Health Laboratory has not had capacity to perform blood lead assays for several years now. There is also no lead screening coordination or follow-up capacity at the central office level. However, persistent requirements by federal programs (such as Head Start and EPSDT) for routine blood lead screening, whether rational or not for Arkansas, create pressure for the Department to reconsider policies and capacity in this regard.

#### 3) Children with special health care needs

Title V CSHCN staff members are active statewide in the provision of education and information related to available services to CSHCN on a local and state level. CSHCN team members provide information at Community Health Fairs, public schools, local community organization meetings and events and at Department of Human Services staff meetings and training sessions.

#### 4) Population based services for women from youth to perimenopausal ages

Population based approaches to women's health are beginning to burgeon. In recent years, two major events took place in Little Rock, but were organized as statewide events. The national television outlet *Black Entertainment Television* organized a statewide convention around women's health issues covering obesity, diabetes, heart disease, arthritis, osteoporosis and HIV/STI, as well as preterm birth. Especially prominent during this event were educational programs around good diet and regular exercise in which audiences participated in cooking healthy meals and in performing aerobic physical activity, and smoking cessation messages emphasizing QuitLine and other cessation services. Featured speakers included locally popular news anchors and well-known health care providers. More than 800 minority women attended this session, as recruited through churches throughout the state. Subsequent to this workshop, a Summit on Women's Health was also held, and is described under infrastructure building.

#### d. Infrastructure building services

### 1) Infrastructure building for pregnant women and infants

ADH designated reducing infant mortality as one of its four top priority health issues, supported by data presented in Attachments C and D. As a result of that commitment, interest in infant deaths has been galvanized among many health professionals in the state. The Natural Wonders Partnership Council is moving forward with an Infant Mortality Action Committee (IMAC), facilitated by the Director of the Center for Health Advancement in ADH, and bringing together partners from ACH, UAMS, Arkansas Foundation for Medical Care (AFMC), Arkansas Advocates for Children and Families (AACF), Arkansas March of Dimes (MOD), Baptist Hospital, and many other interested individuals. Three aspects of this priority are being addressed: Infant Death Reviews, Injuries to infants and young children, and Child Abuse and Neglect. The IMAC established a subcommittee to plan for infant death reviews, the Infant

Death Review Planning Team (IDRPT). This subcommittee has met monthly for the last 8 months, and has adopted two goals: 1) Initiate a training effort to encourage coroners and other first responders to conduct infant death scene investigations, following the SUIDI model of CDC; and 2) Initiate infant death reviews according to the FIMR model of the American College of Obstetricians and Gynecologists and HRSA. A possibility remains that an appropriation of \$300,000 made initially during the 2009 Session of the Arkansas General Assembly may become available again for SFY 2011 beginning in July 2010. The Family Health Branch provides staff support to both the IMAC and the IDRPT, and intends to write a "white paper" developing program proposals for each of these goals.

#### 2) Infrastructure building for children's health services

Delivery of health services to Arkansas children encompasses a complex mesh of state and local systems. At the local level, most direct services are provided by private-practice primary care physicians. Since pediatricians are in short supply except in larger cities, much of this care in Arkansas is provided by family physicians. Other care providers include community health centers and Area Health Education Centers in certain locales, also staffed by family medicine physicians. Acute care is also provided through hospital emergency departments, particularly after-hours care. Preventive health services must be obtained chiefly through primary care physicians, as required by Medicaid and certain other third party payers. There are essentially no alternative providers of comprehensive preventive care in the state such as schools or local public health units. Local health units do provide immunizations and WIC services to children. Screening physical exams are required for certain programs (e.g. pre-Kindergarten, Head Start, ABC); while these are most often conducted in physicians' offices, occasionally mass screenings are arranged. A pilot project to perform routine developmental screening in 60 child care centers around the state was recently begun by the DHS Division of Child Care and Early Childhood Education in collaboration with Medicaid, UAMS, ADH and other interested providers. Other preventive health measures routinely carried out in schools as per state law include vision, hearing, and scoliosis screening, as well as BMI measurements.

As for dental care, most is provided through private dentists' offices. The only alternative source of full-service dental care for children is via one of the mobile dental vans sponsored through Arkansas Children's Hospital, Delta Dental, and the Ronald McDonald House. Only one school in the state, Wakefield Elementary in Little Rock, provides on-site dental services.

As stated previously, mental health services for children and adolescents in Arkansas also come from a variety of sources. Many private providers, particularly those with inpatient facilities, receive state assistance to help care for emotionally and behaviorally disturbed youth. Inpatient programs often have specific treatment units for issues such as substance abuse, sexual offenses, mood disorders, and various forms of psychosis. These providers work closely with regional CASSP coordinators to determine the most appropriate placement of affected children and youth within the state network of providers. The CASSP Coordinating Council, consisting of representatives of mental health providers, regional CASSP coordinators, and other agencies including ADH, meets monthly to share information and discuss system issues. A more recent infrastructure-building effort is the System of Care initiative being carried

out by Division of Behavioral Health Services within DHS. Two pilot sites, Independence Co. (Batesville) and Garland Co. (Hot Springs), have already implemented the model, which includes a number of "wraparound" services for severely troubled youth in an effort to address individual needs in a holistic manner. Preliminary evaluation of pilot sites suggests great success with youth served in this way, and plans are to expand the model to other communities as funding permits.

Many significant planning efforts relevant to child health are underway in Arkansas. A prime example is the Natural Wonders assessment and planning process that involves multiple agencies and organizations working at the state level. The process now has active sub-groups in the areas of school health and infant mortality and also encompasses continuing planning around oral health and health literacy. The Arkansas Finish Line Coalition consists of numerous partners having the key goal of health coverage for all children in the state. Activities include advocacy for measures to expand Medicaid/ARKids and improve enrollment among those already eligible. The Arkansas Coalition for Obesity Prevention is a massive group encompassing representatives from all major state agencies, UAMS, ACH, the Minority Health Commission, food producers, American Heart Association, American Cancer Society, Arkansas Center for Health Improvement, Head Start, and others. A sub-group dedicated to childhood obesity prevention issues meets regularly to discuss potential strategies. Trauma system development involves massive planning that includes representatives from ADH injury prevention and emergency medical services, UAMS, Arkansas Children's Hospital, the Arkansas Hospital Association, and other health groups. ADH staff members have also been deeply involved in planning for implementation of schoolbased wellness centers through collaborative work on a request-for-applications process with the Department of Education. Planning for the STAR Health initiative in southeast Arkansas has included members of the Family Health Branch, particularly with regard to infant mortality reduction activities. STAR Health is targeting three counties (Chicot, Desha, and Lincoln) with a number of interventions designed to improve not only health but also educational and economic outcomes. paraprofessional community health workers is a key part of the strategy to address problems such as infant mortality, chronic disease, and low educational attainment. The Child and Adolescent Health Section is actively engaged in collaborative planning efforts related to long-term follow-up and case management of infants and children diagnosed either with hearing loss or metabolic disorder as a result of newborn screening. These planned activities are being made possible by a large grant from the state Medicaid office to the UAMS/ACH Division of Genetics. Another significant planning process is the AECCS Medical Homes Work Group, which is co-chaired by the Family Health Section Chief. This group expects to have a medical homes toolkit for child care providers developed and disseminated within the next year. Collaborative planning for developmental screening through child care centers also continues among DHS Division of Child Care and Early Childhood Education (DCCECE), ADH, Early Intervention Services, the Arkansas AAP Chapter, and staff from Jefferson Comprehensive Care Systems. As a final example of coordinated planning, ADH and ADE representatives have already begun to plan for mass influenza immunizations in schools scheduled for the fall of 2010.

As with planning efforts, multiple evaluation and research projects related to child health are ongoing in Arkansas. One example is the evaluation of the Coordinated School Health initiative, which is a joint effort among ADH, Arkansas Center for Health Improvement (ACHI), and the Department of Education.

Key outcome measures have recently been selected, and analysis from the 2008-09 school year will be available shortly. Another continuing evaluation project is that for Act 1220 of 2003 (to reduce childhood obesity). The College of Public Health (COPH) is the lead evaluator for most provisions of this Act. COPH results to date demonstrate positive steps in promoting healthier choices for children and adolescents in schools, and essentially no negative consequences to routine measurements of BMI on campus. ACHI is the lead agency for collection and analysis of BMI data collected in schools. Oral health CDC grant evaluation activities are contracted to the COPH, but are still in the planning phase during the current fiscal year. Examples of research and other data-gathering efforts include the Youth Risk Behavior Survey (YRBS), administration of which is coordinated through the Department of Education in alternate years. Selected high schools are chosen to provide a representative sampling of the state. Most Coordinated School Health schools also administer the YRBS on their own to collect school or district-specific data. Administration of the Youth Tobacco Survey (YTS) is coordinated through ADH in collaboration with CDC's Office on Smoking and Health. This survey collects responses from representative public middle and high school students around the state on a number of detailed questions surrounding tobacco product use. Information gathered is highly informative to program staff in Tobacco Prevention and Control as well as Coordinated School Health. Another major survey of note is the Arkansas Prevention Needs Assessment (APNA), coordinated by the Office of Alcohol and Drug Abuse Prevention (ADAP) within the DHS Division of Behavioral Health Services. Conducted annually since 2002, APNA is administered to students in 6<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades. In 2008, almost 95,000 students were surveyed. In addition to asking questions about alcohol, tobacco, and other drugs of abuse, the survey collects valuable information about antisocial behavior, school dropouts, and violence. Prevalence of both risk and protective factors are also assessed. Information collected through APNA is highly relevant both to ADAP and to Coordinated School Health program activities. Also relevant to those interested in school health are the School Health Profiles developed through CDC. Using a combination of data including YRBS and biennial surveys of middle and high school principals, this process yields data at both the state and national level on status of school health education requirements/content; physical education requirements; school health policies related to HIV/AIDS, tobacco use prevention, and nutrition; asthma management activities; and family and community involvement in school health programs. As a final example of child health research (and as mentioned before), the recent Natural Wonders assessment process provided much useful data on pressing health issues through a large telephone survey, community study circles, and provider focus groups.

An example of workforce development relative to child health is the routine training of Coordinated School Health coordinators on each of the eight components of the CDC-developed model. These sessions are conducted in quarterly coordinators' meetings. Another example is the newborn screening program's ongoing trainings for hospital nursery personnel on proper specimen collection technique. Each birthing hospital in the state is visited by the program's outreach nurse at least once per year. The Infant Hearing Program has a similar process wherein each hospital nursery is visited annually, and inservice trainings are provided as needed. A yearly training workshop for nursery personnel to teach proper technique for newborn hearing screening is also held. To address the critical shortage of dental professionals in the state, the Office of Oral Health has received a workforce development grant from the HRSA Bureau of Health Care Professions to be used for the following activities: recruitment of new

dentists into the state; provision of signing bonuses for new dentists; provision of stipends for dental hygiene students; and stipends for residents involved in the new pediatric dental residency program established through UAMS and ACH. Further, the grant will provide \$100,000 in start-up funding for the UAMS Center for Dental Education, creation of which was mandated by law but for which no state funds were ever appropriated.

State-level coordination between child health programs and Medicaid occurs on a regular basis in Arkansas. For example, prior to newborn screening expansion in 2008, meetings were held with the Medicaid office to assure the necessary increase in the screening fee would be covered. Representatives of Medicaid serve on the Arkansas Early Childhood Comprehensive Systems Medical Homes Work Group that seeks to promote the concept among child care providers. The Coordinated School Health program has worked closely with Medicaid to assist schools in becoming providers and tapping into available Medicaid reimbursements for services already being provided. Medicaid has also recently been approached about the possibility of ADH providing EPSDT screening services in the three STAR Health counties. Finally, the state Medicaid office supplies child health programs with administrative data as needed, although further work is needed to streamline this process.

The primary coordinative effort between child health and Part C, Early Intervention Services involves newborn hearing screening. The Infant Hearing Program (IHP) has a memorandum of agreement with the Part C office (housed in DHS-DDS) to share information on children diagnosed with hearing loss through newborn screening. Part C reports back to IHP on interventions arranged for hearing-impaired children referred to them. Part C also interacts with the Children with Special Health Care Needs program within DHS (see CSHCN section of this document).

With respect to mental health services for children, the Family Health Deputy Branch Chief is a representative on the CASSP Coordinating Council which meets monthly. This group works to achieve a cohesive system of referrals and placements for emotionally and behaviorally troubled children and youth. Regular reports on progress in the System of Care pilot project are shared at CASSP meetings. Members of Family Health participated in the original System of Care strategic planning process and also routinely attend meetings of the Children's Behavioral Health Commission.

School health activities are managed under the Coordinated School Health (CSH) initiative. Twenty-two counties have at least one school engaged in implementing the eight-component CDC model shown in Attachment WWW, with a total of 33 schools now embracing the model. Each involved school/school district has a CSH Coordinator. Funding for the program goes through the Department of Education (ADE). At the state level, both ADE and ADH have full-time CSH Program Coordinator positions. These individuals work very closely on all aspects of the program. The ADH Coordinator also works closely with the State School Nurse Consultant (whose salary comes from a mix of ADH and ADE funds). Planning for school wellness centers has been a joint effort between ADH and ADE. Funding for these centers goes to ADE as a result of the 2009 tobacco excise tax. Following a directive by the governor, only CSH schools are eligible to apply for school wellness center funds. Coordinated School Health is also intertwined with tobacco use prevention, as financing for many of the CSH sites comes from

tobacco settlement funds. CSH schools are therefore required to devote significant effort to antitobacco activities. There is also a connection to childhood obesity prevention. Coordinated through ADH with help from ADE staff, the Child Health Advisory Committee is responsible for making policy recommendations to schools that promote health and help prevent chronic disease (including but not limited to obesity-related conditions).

As stated before, coordination with the WIC program occurs at the state level through provision of medical input on formulary decisions. WIC policies applied in local health units are also reviewed by Family Health Branch physicians prior to implementation. Information is also shared between Family Health and WIC at twice-monthly Center for Health Advancement meetings.

Examples of coordinating efforts with other agencies are also abundant. The University of Arkansas for Medical Sciences (UAMS) and Arkansas Children's Hospital (ACH) have been major partners in several efforts. The involvement in newborn screening has been mentioned before. Without major input from experts at UAMS and ACH, expansion of the newborn screening program would have been extremely difficult. A contract with the UAMS Department of Pediatrics affords ongoing consultation with genetic subspecialists regarding abnormal screening results. A Memorandum of Agreement with ACH provides for secondary testing of initial positives for cystic fibrosis and congenital adrenal hyperplasia, reducing false positive rates (and need for PCP notification) substantially. Specialists from UAMS/ACH also help with newborn hearing screening, providing consultation on program administration and feedback on children with hearing loss diagnosed in their center. The Natural Wonders process initiated through ACH has led to a plethora of partnerships and activities, including those targeted to school health, dental health, and infant mortality. The Injury Prevention Center at ACH has also shared information and resources with the ADH Injury Prevention and Control Branch on a number of injury topics.

Coordination between ADH and physician groups also happens on a regular basis. The Family Health Deputy Chief is a member of the American Academy of Pediatrics and attends regular state chapter meetings to stay abreast of chapter activities and pediatricians' concerns. There is also routine consultation and information-sharing with the chapter president and executive director. Such coordination is particularly important during legislative sessions. Representatives of the state AAP also participate in state planning groups such as the Medical Homes Work Group, the Newborn Screening Subcommittee, and the Universal Newborn Hearing Screening, Tracking and Intervention Advisory Board. Contact with family physicians is maintained through the Arkansas Academy of Family Physicians (AAFP). This group is also regularly consulted when needed to discuss program issues having impact on primary care doctors. Representatives of AAFP serve on various planning and action groups such as the Child Health Advisory Committee.

A major partner in many child health initiatives is Arkansas Advocates for Children and Families (AACF). This non-profit has a very strong focus on child health and has been instrumental in promoting many public policies favorable to children. For example, the group organized the Finish Line Coalition to push for Medicaid eligibility expansion and other measures to spur enrollment. During the 2009 legislative session, AACF was a key proponent of the tobacco tax that funded a slew of health initiatives (trauma

system, wellness clinics, community health centers, infant autopsy reviews, etc.). Family Health coordinates closely with the AACF Director for Health Policy and Legislative Affairs. Working with the Family Health Branch Chief in ADH, this individual serves as co-chair for the Medical Homes Work Group and also is a member of the Child Health Advisory Committee, the CASSP Coordinating Council, and the infant mortality action group among others. As an independent organization, AACF is able to advocate freely for policy changes on a wide range of issues. Therefore, it behooves Family Health to maintain a close working relationship with this group.

Development of guidelines and standards of care for children in Arkansas is conducted through a variety of mechanisms. Specific examples include promulgation of rules and regulations for specific programs such as newborn metabolic screening and newborn hearing screening. Separate guidelines for intensive care nurseries have also been issued for blood spot screening. The Antenatal and Neonatal Guidelines, Education, and Learning System (ANGELS) program conducted through UAMS has issued a large number of guidelines for clinical care of neonates. The Neonatology Section holds a weekly telemedicine conference with key hospital nurseries around the state to discuss problematic issues and reinforce guideline principles. Other efforts to improve standards of care include the Arkansas Early Childhood Comprehensive Systems (AECCS) Initiative, which in 2008 produced a recommendation for all primary care physicians to utilize the Ages and Stages Questionnaire for routine developmental screening assessments. Another AECCS project, promotion of the medical home concept through child care providers, has the potential to improve the standard of care for all Arkansas children. For older children and adolescents, the Child Health Advisory Committee (CHAC) has already seen a number of recommendations implemented as policy within the Department of Education. More recently, the CHAC has issued additional recommendations grouped within each of the eight domains of the Coordinated School Health model. These recommendations address a large number of potential standards for schools relating to nutrition, physical activity, health and physical education, and staff wellness. Also included are broader recommendations related to health care access and the child behavioral health system. Under Act 1220 of 2003, all public schools in Arkansas are required to have a Wellness Committee. These groups have been instrumental in establishing local standards for health promotion.

Within ADH local health units, services provided directly to children consist essentially of immunizations and WIC. These programs, which exist as distinct organizational units within the state office, have measures of program quality and effectiveness collected and analyzed in accordance with federal requirements. For example, the WIC program has procedures for review of records, observation of WIC operations, and completion of an administrator's survey. Measures of child nutritional status are also submitted to the funding agency (USDA) as elements in support of program effectiveness. ADH also has internal quality improvement activities directed to WIC and Immunizations. Operational standards for each program are constantly monitored in each local health unit, with corrective actions taken if a breach is noted. A Service Satisfaction survey is also administered regularly in every health unit to Immunization Clinic clients to assess how well their needs were met, friendliness and professionalism of staff, and whether the clinic hours of operation were suitable. Responses to surveys are analyzed and if significant trends are noted, appropriate changes are made at the local health unit.

Monitoring of continuous quality improvement within the larger child health arena involves a number of different groups in the state. The Department of Health collects data and analyzes trends for key child health measures, with special reports published from time to time on a particular health topic of interest. This process is greatly facilitated by the MCH Block Grant application and Needs Assessment process, which focuses attention to measures of both state and national relevance. Departmental data are useful for assessing a number of the ongoing collaborative activities aimed at improving the child health system. Other groups look at specific programmatic measures to help monitor success. For example, the College of Public Health conducts an ongoing evaluation of Act 1220 that includes multiple measures of systems and policy change within and beyond schools, while the Arkansas Center for Health Improvement collects and analyzes body mass index data as a progress indicator for all the many antiobesity activities ongoing in the state. The child care system through DHS is implementing a Quality Rating and Improvement Scale for providers that will serve as an objective benchmark for a given care center and also provide data for the state to monitor system progress. As for quality of children's medical care, the state Medicaid program conducts regular audits of physician practices to assess compliance with EPSDT requirements and other provider requirements necessary for designation as a "primary care physician." Arkansas Medicaid also sends quarterly individualized profiles to each participating physician detailing average costs of care and prescriptions incurred by the doctor's Medicaid caseload as compared to the state average. Finally, the Medicaid office provides data to the Centers for Medicare and Medicaid Services (CMS) and other interested groups regarding the percentage of Medicaid beneficiaries who received EPSDT screening components and follow-up services. The latter figures not only help to assess success of Medicaid initiatives such as provider reimbursement increases or penalties, but also assist public health in assessing over time the extent to which the state's neediest children actually receive preventive care.

#### 3) Infrastructure building for children with special health care needs

The Title V CSHCN Needs Assessment was begun as the first step in a process to complete strategic planning for the program. Senior CSHCN program administrators are concerned about the ability to continue to serve Arkansas in the manner done historically. The Needs Assessment and strategic planning process afford the opportunity to evaluate the health care environment in Arkansas. Fundamental changes in program coverage and services may be required. Partnerships may be enhanced or developed to assist the program in making decisions on the change and evolution of the program versus continuing as is.

#### 4) Infrastructure building for women from youth to perimenopausal ages

A coalition of women coordinated a statewide Women's Summit, aimed at policy development in preparation for the 2008 session of the Arkansas General Assembly. This group held its first meeting shortly after the Black Entertainment Television workshop described above. Coordinated by a public health nurse from Baptist Health Incorporated, this group convened women from health, education, and legislative walks of life. The number of women elected to legislative positions has continued to increase, and increasingly, they are caucusing around women's health issues.

The Health Resources and Services Administration (HRSA) regional office in Dallas convened a forum for the discussion of Women's Health including all HRSA-funded programs in Arkansas. They included Family Planning and Maternal and Child Health programs, Children with Special Health Care Needs, HIV/STD Programs, Ryan White Coalition activities, the Area Health Education Centers (AHECs), Community Health Centers (CHCs), Minority Health Offices, and other groups with a women's health focus. The group prepared a governor's proclamation regarding the health of women, designating a women's health month. Chief issues discussed were the chronic diseases suffered especially by women, a prominent lack of insurance coverage for women from 20 to 64, the need for more attention to smoking reduction, healthier eating and physical activity, and especially the problems of pregnancy and post partum depression with their profound impacts on the children of those mothers. While that proclamation draft was not adopted and signed by the Governor, Arkansas has had repeated Women's Health Proclamations in recent years, the last one being signed in 2010.

#### 5. Selection of State Priority Needs

#### **List of Potential Priorities**

The process to determine priority needs for pregnant women and infants, children, and (non-pregnant) women began with a thorough review of data relevant to health issues of these groups. An MCH Needs Assessment Planning Team was established which consisted of leaders from the Perinatal Health and Reproductive Health Programs within Women's Health, the Child and Adolescent Health Section, and the Office of Oral Health. In the spring of 2009 the Team organized a group of external stakeholders representing all 3 sub-interests that included community, academic, and state agency participants. After relevant data were presented to the three sub-groups, a master list of potential priorities was then generated and narrowed further using a group process.

Priorities for Children with Special Health care Needs were established using a separate process. To conduct the CSHCN Needs Assessment, DDS Children's Services partnered with the LEND program located at the University of Arkansas for Medical Sciences. LEND (Leadership Education in Neuordevelopmental and Related Disabilities) is an interdisciplinary training program funded by the Maternal and Child Health Bureau which seeks to improve the health of infants, children, and adolescents with disabilities by preparing trainees from diverse professional disciplines to assume leadership roles in their respective fields. Through this partnership with LEND, Children's DDS Services was able to leverage the resources of students from the disciplines of Social Work, Health Services Administration as well as the resources of other community partners such as Partners for Inclusive Communities, the Arkansas Disability Rights Center, Parent Advisory Groups, and Arkansas Children's Hospital faculty.

Next, the planning team moved into the Social Assessment. The goal of this phase in the planning process was to determine the CSHCN population's perceptions of their own needs and quality of life. The population included the children themselves, parents, advocates and service providers. To gather stakeholder input, the planning team chose to use Family Surveys and Community Forums.

Surveys were mailed to approximately 2500 families served by the Title V Children with Special Health Care Needs Program in the WINTER 2010 Newsletter. Community forums were conducted throughout the state of Arkansas in the following 11 towns: Batesville, Clarksville, Hope, Jonesboro, Magnolia, Mena, Monticello, Mountain Home, North Little Rock, Springdale, and Stuttgart. Flyers advertising the forums were mailed and e-mailed to families of children with special healthcare needs and to professionals in each community/area. At each meeting, attendees (i.e., family members of individuals with a disability, professionals, and individuals with a disability) were asked to provide answers to the following question: "What would make your life better?" Attendees generated a list of issues, which were recorded by a single note taker who categorized the issues. The attendees were then asked to rank the importance of each category of issues. Each of the attendees were given 5 stickers to place on the category/ies that were of highest priority to them. All 5 stickers could be placed on one category, if desired by the attendee. Votes from family members, professionals, and individuals with disabilities were represented by different colored stickers. Two meetings were conducted in each town - one afternoon meeting and one night meeting – except for two towns (i.e., Monticello and Stuttgart) where only one meeting was conducted. At the conclusion of each forum, attendees were provided with information (in the form of brochures and handouts) if any of the issues generated could be addressed immediately. Findings from community forums are summarized in Attachment A.

The opportunity was also taken to include care coordination staff of the Title V CSHCN program as a Focus Group during the Needs Assessment process. Care coordination employees were placed in 3 groups and a 4<sup>th</sup> group consisted of regional management staff. All groups were asked the same 13 questions which ranged from "Which services provided by Title V are most needed by the children and families?" to "What advice would you like to give to Title V planners?" See Attachment B for focus group notes.

Through these processes, various Stakeholders suggested the following set of potential priority issues for pregnant women and infants, children, and non-pregnant women. These are each briefly discussed with rationale for inclusion or non-inclusion as state priorities:

- 1. <u>Increased EPSDT screening rates</u>. Assurance of preventive primary care for children is an important goal. However, ADH is not currently recognized by the state Medicaid program as a primary care provider. In addition to changes in Medicaid policy in this regard, significant infrastructure-building (training, staffing) will have to occur within local health units to allow ADH to become a major provider of these services. Therefore, this priority was not chosen at this time.
- 2. <u>Improved access to the medical home for children</u>. While a very important cause, other groups such as DHS and Arkansas Advocates have taken on this priority. ADH will continue to collaborate closely with these groups, but this priority was not chosen as a Title V area of focus.
- 3. <u>Care coordination for children, including use of human service workers in schools</u>. Care coordination has become a viable strategy to address a number of health system needs, and would be useful in helping children and families access services for which they are eligible and which the child requires. ADH will continue to partner with ADE, DHS, and other service agencies toward this end, but this was not chosen as an MCH priority.

- 4. <u>Increased provision of dental screening, sealants, and water system fluoridation</u>. The need for improved oral health touches many populations within the state. As an ADH agency priority, much attention is being devoted to this issue currently. The MCH Program cooperates closely with the Office of Oral Health and is highly supportive of all their activities. Given also that Arkansas ranks so poorly in dental health measures compared to the nation, this priority has been chosen as one to pursue for the next five years.
- 5. <u>Enhanced parent health literacy</u>. Health literacy is a growing concern in Arkansas and elsewhere. The issue cuts across all dimensions of health care service delivery. As such, the MCH Program is committed to addressing it routinely in all of its activities, but it will not be listed as a separate priority for the quinquennium.
- 6. <u>Creation of school-based wellness centers</u>. Tobacco tax revenues have been appropriated to the Department of Education for creation of up to 10 wellness centers within Coordinated School Health schools. Under a Memorandum of Understanding with ADE, ADH is providing a nurse coordinator to assist in the development and operation of these sites. Additional state funds may materialize to create more wellness centers, but it is anticipated that these will also be directed to the Department of Education. Although close collaboration will continue in this arena, this issue was not selected as a Title V special priority.
- 7. <u>Childhood injury prevention</u>. Given the traditional high rates of childhood injury in Arkansas, the recent passage of the trauma system legislation and several other laws of note, and continued development of the ADH Injury Prevention and Control Branch and the outstanding efforts of the Children's Hospital Injury Prevention Center, this has been chosen as a logical priority for the next five years.
- 8. <u>Prevention of teen pregnancy</u>. Arkansas has one of the highest rates of births to teenagers, especially 18-19 year olds. Abortion rates are low, so primary prevention of pregnancy is the most viable means of reducing birth rates. The state has many resources in place to deal with the problem, and additional help should be forthcoming with newly announced federal grant programs. Therefore, this priority has been selected (although phrased as "reduction of births to teens").
- 9. <u>Lifestyle/behavioral changes to improve pregnancy outcomes (alcohol use, smoking, oral health, etc.)</u>. These issues are addressed routinely in ADH Maternity Clinics, although behavioral change is always difficult to effect. Smoking among all women of reproductive age (see below) and oral health are addressed as separate priorities.
- 10. Access to prenatal/intrapartum care. This issue is one that ADH continually strives to address. Appropriate provision of services in local health units to match the ever-shifting local capacity remains an ongoing challenge. Access may be compromised slightly if the Department is forced to implement fees for Maternity Clinic services, but the alternative of no services at all is completely unacceptable. Since access to these services is an issue that ADH Family Health is already paying close attention to, it will not be labeled a special "priority" for purposes of the Block Grant.

- 11. Services for infants (e.g. immunizations, well-baby). This potential priority ties in with the need for comprehensive primary and preventive services for all infants, ideally within the medical home setting. It is somewhat addressed under the Health Systems Capacity Indicators for proportion of Medicaid and SCHIP recipients receiving an EPSDT visit within the first year of life. As with potential priorities 1 and 2 above, other groups are highly engaged in working to assure provision of these services, although ADH could certainly become more involved if it chose. However, for now this will not be included as a state priority.
- 12. <u>Chronic disease self-management for women</u>. Rates of type II diabetes, hypertension, and heart disease are on the rise among women. The MCH Planning Team recognized the importance of these issues, but felt that further thought and discussion regarding Title V's role in this arena was needed. An appropriate and accessible performance measure would also need to be selected. While not selected as a priority, this issue may be added later as an area of emphasis.
- 13. <u>Reduction of Chlamydia infection rates</u>. Chlamydia infections are on the rise in Arkansas, and additional screening may be warranted. Women's Health follows CDC and ACOG guidelines for screening, and the ADH AIDS/STD Section provides surveillance and follow-up activities as well as programmatic input. While cooperative attention to the problem is definitely warranted, other groups are taking the lead and therefore this will not be a Title V priority.
- 14. <u>Health disparity reduction (non-traditional approaches)</u>. Health disparity is yet another crosscutting issue that the Family Health Branch is attempting to address systemically. Novel approaches to dealing with disparities are needed to reach the goal of true health equity. These will most certainly be explored and pursued over the coming years to address racial and ethnic disparities in such areas as infant mortality, preterm and low birth weight births, injuries, and cancer, as well as in risk behaviors such as smoking and substance abuse.

The CSHCN Stakeholder groups recommended the following potential priorities:

- 1. <u>Increased communication on CSHCN programs and services</u>. The predominant need mentioned from both the Public Focus Groups and the Employee Focus Groups was the need for communication. Twenty-three percent (23%) of issues discussed by participants in the Public Focus Groups involved the need for improved communication which should be addressed by the Title V CSHCN program. Due to the heavy interest by stakeholders in this issue, it will be a CSHCN priority for the next five years.
- 2. <u>Improved access to a trained and knowledgeable Title V workforce</u>. Twenty-one percent (21%) of the issues discussed by participants in the Employee Focus Group involved the belief that there was not enough information provided to them from program administration. Due to the vital nature of a well-trained, informed workforce, this aspect of infrastructure building has been selected as a priority for the next five years.
- 3. <u>Development of a more accessible diagnostic infrastructure within the state to assure early diagnosis and treatment of developmental disabilities</u>. Professionals informally surveyed related the need for improvement in the infrastructure necessary for diagnosis of developmental delays in young children. Developmental screening done at the prescribed ages in a young child's life is an area that has been

addressed with grant funding through the ABCD initiative in recent years. The ABCD III initiative is currently working on developing pilot sites to collaborate on closing the referral loop which will focus on the referral, access to appropriate treatment modalities and follow-up information provided to the referring professional. In addition, the proposed CoBALT Project (Community-Based Autism Liaison and Treatment Project, discussed under "Needs for Children with Special Health Care Needs") would hasten triage and assessment of children with suspected autism spectrum disorders. Unfortunately, after careful study it has been determined that sufficient data on developmental screenings and referrals are not currently available to develop a reliable performance measure for this issue. Therefore, it has not been selected as a priority at this time.

4. Other major issues of concern to both the public and employees providing input were related to the DDS Waiver, Education and School problems, availability of training, transportation difficulties and respite or the lack of respite. While all important, these issues were not expressed as frequently as those above and will not be formal priorities.

During the year following the 2009 MCH stakeholder meetings, other potential priorities also emerged through ongoing partnership activities. These included:

- 1. Enhanced training for first responders in the CDC's Sudden and Unexpected Infant Death Investigation (SUIDI) process. This suggestion emerged through work on a possible infant death review process. Better death scene information is needed to afford coroners and the Medical Examiner the greatest chance of correctly assigning cause of death. Many coroners in Arkansas lack skills in death scene investigation, particularly with respect to infants. The Medical Examiner's Office is currently partnering with the coroner's association and the Arkansas Commission on Child Abuse, Rape, and Domestic Violence to offer such trainings to as many coroners and first responders as possible.
- 2. <u>Establishment of an infant death review process</u>. Related to the above, ADH (under Dr. Nugent's leadership) carried out an inter-agency planning process in the past year which culminated in a proposal to establish a state infant death review team that would attempt to review about 70 cases per year. Funding to establish this process was initially believed to be available through an allocation of tobacco tax money, but since then the availability of these funds has come into question. Family Health remains committed to the process, however, and may add this as a priority later when funding is more secure.
- 3. <u>Reduction of smoking among women of childbearing age</u>. Arkansas has high rates of smoking-related mortality among women (see discussion below under "Priority Needs and Capacity"). Smoking profoundly affects not only women but also the children around them. Due to ongoing high rates of smoking and the existence of substantial capacity to take on the problem, this issue has been selected as a priority for the next five years.
- 4. <u>Reduction of tobacco use among adolescents (as measured through Coordinated School Health activities)</u>. CSH activities are closely linked to anti-tobacco measures since the Tobacco Master Settlement provides major funding for many of the CSH schools. The Tobacco Prevention and Control Program has immense capacity to address this issue and has already implemented activities in most of

the CSH schools. Progress in tobacco use reduction will continued to be monitored by the Title V Program through regular data collection as occurs through YRBS and The Youth Tobacco Survey.

- 5. <u>Improved developmental and social-emotional screening of young children</u>. This potential priority arose through discussions with Division of Child Care and Early Childhood Education staff surrounding ABCD-3 activities, as well as an ARRA-funded pilot in 60 child care centers to perform developmental screening using the Ages and Stages Questionnaire. Since continued funding for both of these avenues is not certain, this will not be selected as a priority although collaboration in the arena will continue.
- 6. <u>Enhanced screening of post-partum women for depression</u>. This potential priority was discussed with other states in Region VI as being a possible regional joint priority. However, implementation has been deferred for at least a year at the request of some of the states. Nonetheless, ADH remains very interested in this issue and may proceed with declaring it a priority in the next one to years, with or without the other states in Region VI.

#### Methodology for Selecting Priorities

The MCH NA Planning Team carefully considered these suggested priorities throughout the duration of the Needs Assessment process. Clearly, many of the areas suggested are already addressed through national performance measures, health status indicators, and health system capacity indicators. The Planning Team factored in analysis of many data elements from the needs assessment, current agency priorities, and ongoing state efforts and capacity in arriving at the final list of state priorities for the coming five years. Input was also solicited from both Regional Leaders and from Senior Staff before the final list was formulated. All of the above potential priorities were felt to have merit, and the final decisions were very difficult. The MCH Planning Team consciously agreed to limit the number of priorities to seven to begin with, to allow room for expansion later. It must be noted that many potential priorities not selected will still be actively pursued through Family Health/Title V programs and initiatives, even if not labeled as "priorities." The final State Priorities List presented below has been developed through careful review of all input from planning partners in many groups, but most conspicuously through review of the actions of planning partners who are ready to take action. These priorities are those having the most discussion among our networks, and include needs to:

- 1. Reduce births to older teens
- 2. Reduce smoking among women of childbearing age
- 3. Improve trauma care for children
- 4. Improve oral health in children and women
- 5. Reduce obesity and overweight among school-aged children
- 6. Improve communication between the Title V CSHCN program and the CSHCN population
- 7. Improve training and program development for the Title V CSHCN workforce

#### **Priorities Compared with Prior Needs Assessment**

Priorities chosen for the next five years are substantially different than those from the past. At the time the last priorities were chosen, ADH was in the process of merging with DHS. Since then, ADH has once

again become an independent state agency. A different set of partnerships and collaborations has developed. New laws and new funding sources have altered the landscape, and new agency priorities have also been established. Finally, recognition of certain "new" issues and greater focus on some known "old" issues was felt to be in order.

The first new priority replaces the former priority for reduction of sexual intercourse among teenagers. However, in expressing the desired outcome as fewer <u>births</u> to teens, it broadens potential strategies for achieving this goal beyond abstinence-only education. This priority links to NPM 8, births to teens 15-17 years old. Part of the rationale for the selected priority is that Arkansas has the highest rate of births to 18-19 year olds, according to rankings released by the Guttmacher Institute in 2010. Although they are older adolescents, most 18 and 19 year olds are not financially, developmentally, or emotionally prepared to be parents. Babies born to teenage mothers (including 18-19 year olds) have higher mortality rates during infancy than those born to older women. Many interventions effective for younger teens will impact 18 and 19 year olds as well. Finally, only 38% of students who start college in Arkansas ultimately graduate, and unintended pregnancy during the first years of college may well be a significant contributor to this statistic.

The second new priority replaces the former state priority for reduction of smoking during pregnancy. However, it is broader in scope to encompass concern for the interconceptional and pre-conceptional periods in women's lives. Smoking has many well-documented adverse consequences throughout the reproductive years and beyond. In addition to increasing risk for many types of cancer and for chronic lung disease, smoking is a major risk factor for cardiovascular disease. Smoking during pregnancy is associated with lower birth weights, major obstetrical complications, and higher risk of SIDS, which of course is a significant contributor to infant mortality. The detrimental effects of secondhand smoke on children are also myriad. According to an analysis published in MMWR in December 2009, compared to other states Arkansas had the eighth highest rate of smoking-attributable mortality among females during 2000-2004. The female smoking-related mortality also increased in Arkansas during this period as compared to 1996-1999.

The third new priority, improved trauma care for children, recognizes how large a problem injuries pose for Arkansas children and youth compared to most other states. The MCH Planning Team is aware that this priority overlaps with NPM 10, deaths to children 0-14 due to motor vehicle crashes. However, unintentional childhood injury death rates in Arkansas have traditionally greatly exceeded national rates, often by 50% or more. In addition to motor vehicle crashes, causative events for which the state suffers excess childhood mortality include house fires, drowning, and unintentional firearm injuries. Lack of public awareness and the rural nature of much of the state have often been blamed for these deaths. Many have pointed to historic lack of a coordinated trauma system in Arkansas as being an important factor.

The fourth new priority, improvement of oral health among children and women, recognizes longstanding, profound needs for better dental care and preventive dental services in the state. Again, the connection to a national performance measure (#9, percent third grade children with dental

sealants) is well known. Nonetheless, oral health in Arkansas has been a continuing challenge for many years due to lack of and maldistribution of providers and a relative lack of fluoridated water supplies. Children in the state suffer more dental decay than in many states, and women also feel the effects of cavities and periodontal disease. The latter is now believed to be a possible risk factor for preterm delivery.

The fifth priority, reduction of obesity and overweight among school-aged children, is actually a continuation of two former priorities (reduced percentage of school-age children with BMI above the 95<sup>th</sup> percentile, and between the 85<sup>th</sup> to 95<sup>th</sup> percentile, respectively). Since interventions for these two priorities were essentially the same, they have been combined into a single priority. Rates of overweight/obesity among Arkansas children have not declined significantly the past six years, but they have leveled off and evidence of decline is anticipated shortly. Still, almost 38% of school children in the state are obese or overweight, and given the intense ongoing activity in this arena, continued focus is clearly warranted.

The two target areas chosen as the CSHCN priorities for the next five years have the potential to affect many of the other issues that were brought up during the Needs Assessment process. The sixth state priority, improved communication between the Title V CSHCN program and the CSHCN population, replaces the very similar previous state priority related to satisfaction among parents that service coordination teams have informed them of available services. This priority actually relates to all five of the CSHCN NPM's. The newly stated priority will involve the development of a website that is effective in providing information on services available and program contacts, as well as in providing employee programmatic training and resource information. This priority will also involve the move toward an electronic program record. The final state priority, improved training and program development for the Title V CSHCN workforce, is new. Examination of CSHCN staff needs revealed this to be a prominent concern.

Apart from the changes already noted, several other previous state priorities have been deleted. These include the priority for increasing the percentage of children 0-18 and below 200% of poverty enrolled in ARKids First. Data from the state Medicaid program related to this measure were very inconsistent over the prior five years. Also dropped were priorities related to percentage of pregnant women counseled for HIV testing, and percentage of overweight Family Planning clients who received educational materials and referrals from the clinic to community resources. Although important, these two issues simply were not deemed critical enough to rate priority status. The priority related to knowledge and ability to transition among teenaged youth with SHCN was also deleted. Finally, a state priority related to reduction in the percentage of obese WIC children was dropped since interventions were identical to those for NPM 14.

#### **Priority Needs and Capacity**

#### 1. Priority: Reduce births to older teens

Arkansas has numerous resources at hand to continue to combat births to teens. ADH is the largest public provider of family planning services in the state, with confidential services available to both female and male youth in every county (direct and population-based services). Community Health Centers, AHEC's, Planned Parenthood, and other private providers (e.g. physicians' offices) also provide a fair share of services. Although Unwed Births Initiative and Abstinence Education activities were suspended in mid-2009, substantial new federal teen pregnancy prevention funds have recently been announced, and the state intends to actively pursue those. Re-authorization of abstinence-only education funds also affords a potential avenue to pursue (enabling services). The recent establishment of school wellness centers linked to the Coordinated School Health process creates additional venues for teen pregnancy prevention activities, even if direct family planning services are not provided on campus.

Other opportunities for intervention related to this measure include increased outreach to colleges and universities within the state (enabling services). Currently ADH operates satellite family planning clinics at two colleges. In addition, more local health units could be encouraged to offer family planning services at alternative hours (nights, weekends) targeted specifically to teens, as is currently done in three counties (direct services). Finally, and perhaps most importantly, the Medicaid Family Planning Waiver could be better publicized to encourage more young women to take advantage of covered services (enabling services).

#### 2. Priority: Reduce smoking among women of reproductive age

Resources to combat smoking among Arkansas women are very robust. The ADH Tobacco Prevention and Cessation Program (TPCP) supports the statewide Stamp Out Smoking initiative aimed at both primary prevention and cessation of smoking (direct, enabling, and population-based services). Many anti-tobacco programs and curricula are based in schools, particularly Coordinated School Health Schools that receive TPCP funds. An ongoing media campaign involves ads on TV, radio, and in print media. TPCP sponsors a QuitLine telephone number that smokers can call to receive information on state and local resources to help them stop smoking. The Quitline Program also offers callers one to five phone sessions by trained cessation counselors, at no charge to the participant.

Within ADH Women's Health programs there exists additional capacity to discourage smoking (direct and enabling services). While Women's Health Nurse Practitioners are very well-informed and engaged in promoting smoking cessation in maternity and family planning clinics, public health nurses (PHN's) are typically less so. An opportunity exists to train more PHN's in smoking cessation and to institute policy changes that would make cessation-related referrals and follow-up by PHN's more routine (infrastructure-building).

#### 3. Priority: Improve trauma care for children

An exciting recent development is the appropriation of almost \$20 million in state funds toward creation of a statewide trauma system (infrastructure-building). Many committees and subcommittees consisting of a multitude of internal and external stakeholders have been working the past year to lay out the structure of the new system and determine needed resources to make it work. A new Trauma Section has been established within the ADH Injury Prevention and Control Branch to oversee the system, and a director to head up the new section was recently hired. When fully operational, the trauma system should improve transport times and allow for assignment to the most appropriate trauma care facility based on the nature of the injury. Given the opportunity the Arkansas Title V Program could support these efforts through collaboration in public awareness activities and through enhanced health education for local health unit clients (enabling services).

#### 4. Priority: Improve oral health in children and women

As a partner to the ADH Office of Oral Health (OOH), the Arkansas Delta Dental Foundation has contributed many thousands of dollars to fund needed equipment and supplies for community water systems that elect to fluoridate (population-based and infrastructure—building services), and now 65% of Arkansans on such systems receive water with recommended levels of fluoride. Legislation to mandate fluoridation of all public water systems (infrastructure-building) has been drafted and introduced several times but to date has not passed. In the meantime, OOH has worked with individual systems to raise awareness and support for fluoridation, adding a number to the ranks of the voluntarily "fluoridated" over the past ten years. OOH has also partnered with a number of groups to provide and promote dental sealants in children (direct and enabling services). The Arkansas Title V program is interested in supporting OOH in promotion of dental sealants and in performance of an annual assessment of third graders to determine sealant and caries rates. These activities would be very appropriate to support with MCH funds should the ability to do so materialize.

#### 5. Priority: Reduce obesity and overweight among school-aged children

This priority represents a continuation of childhood obesity as an area of focus. Act 1220 of 2003 established the Child Health Advisory Committee, which is charged with recommending policies for schools in the state that will lead to reduction of child obesity (infrastructure-building). Within ADH, Community Health Nurse Specialists and Community Health Promotion Specialists target obesity with particular intensity. These activities (enabling services) are directed primarily at the school-aged child. Many Hometown Health Improvement Coalitions have also adopted this issue as a local priority (direct and enabling services). Multiple other interests in the state, such as the Arkansas Coalition for Obesity Prevention, also have a stake in seeing this problem improve (infrastructure-building).

#### 6. Priority: Improve communication between the Title V CSHCN program and the CSHCN population

Families indicated during focus groups and on the survey that they have a tremendous need for information. Members of the Focus Groups were dissatisfied that information on programs and services was not readily available to them in this age of instant access. Resources to improve communication with the families of CSHCN will include the development of the program's website and improved quarterly newsletters. Effort on this priority requires the development of technological infrastructure which, though perhaps present within the Department of Human Services, has not been previously utilized by this program. Collaboration with the state of Arkansas' contractors, Northrop Grumman and Information Network of Arkansas (INA), will be essential.

#### 7. Priority: Improve training and program development for the Title V CSHCN workforce

The Employee Focus Group expressed disappointment in the training resources available to them as they strive to serve the CSHCN community. In addition, new programs developed within short time constraints proved problematic and made it especially difficult for care coordination staff to manage and provide adequate and correct information to the CSHCN community. Workforce development and empowerment are essential to the quality of services provided to the CSHCN community. By improving the training and tools available to the CSHCN care coordination staff, the services provided to the CSHCN community will improve as well.

#### **MCH Population Groups**

All three main MCH populations are covered by the selected priorities. The first two priorities, reduction of births to teens and reduction of smoking among women of childbearing age, target the pregnant women, mothers and infants population. The first also targets children and youth. The priorities for reduction of childhood injury mortality and reduction of childhood obesity of course target the child population. The priority for improved oral health targets both children and women (pregnant and non-pregnant). Finally, the priorities for improved communication between Title V CSHCN staff and the children, youth and families served and the need for workforce development training and activities for Title V CSHCN staff obviously represent CSHCN priorities.

#### **Priority Needs and State Performance Measures**

The state performance measures for the above priorities are linked one-to-one using a single state measure that serves as a proxy for meeting the priority need. The new state performance measures for each of the above priorities are listed below, along with a brief discussion for why each was chosen and the source of the data:

#### **SPM 1**. The rate of birth (per 1,000) for teenagers aged 18 through 19 years

Data on teen births are readily available from the ADH Health Statistics Branch and are more reliable than pregnancy rate estimates. The rate for the 18-19 subgroup is often broken out in discussions of teen births and typically is much higher than the rate of births to 15-17 year olds.

#### **SPM 2.** The percentage of women aged 18-44 years who report being current smokers

Data on smoking trends among Arkansas women are available through the Behavioral Risk Factor Surveillance System. Although women aged 15-44 are typically considered the defining range for "reproductive age," the BRFFSS only includes those 18 and older, hence the age range chosen for the measure. This telephone survey is conducted annually and is scientifically weighted to reflect the state as a whole.

**SPM 3**. The proportion of children aged 0-21 with Injury Severity Score (ISS) of >15 who receive definitive treatment in either a Level I or Level II trauma center

The Injury Severity Score is calculated using the Abbreviated Injury Scale (AIS) assigned in the field and is a useful indicator of the severity of injury. The AIS is utilized for most children with more severe injuries and is information that will be collected through the state Trauma Registry housed within the Department of Health. As the trauma system unfolds, more children with severe injuries should be appropriately triaged and dispatched to higher level care facilities. Therefore, the above state performance measure should serve as a reasonable indicator for how trauma system development is progressing with respect to childhood injuries.

SPM 4. The percentage of people on community water systems whose water is appropriately fluoridated

Although the priority issue goes well beyond water fluoridation, progress in fluoridation should serve as a correlate for improved dental health overall. Data for the new state performance measure will be obtained from the ADH Office of Oral Health (OOH), which has been very involved in promoting fluoridation of public water supplies. OOH in turn receives these data through an annual CDC-sponsored assessment.

# **SPM 5**. The percentage of school-aged children with body mass index >85<sup>th</sup> percentile

As stated under "Priorities Compared with Prior needs Assessments," two of the previous state performance measures related to childhood obesity have been combined into a single measure. Interventions for the measures previously used (%BMI >95<sup>th</sup> percentile, and %BMI 85<sup>th</sup>-95<sup>th</sup> percentile) were essentially identical. Arkansas is blessed to have available a large amount of BMI data from schoolaged children, thanks to a requirement of Act 1220 of 2003. These data are annually compiled and analyzed by the Arkansas Center for Health Improvement.

**SPM 6**. The percentage of respondents indicating Title V CSHCN program personnel have communicated information on one or more program(s) or service(s) that was helpful in meeting a family or individual need within the previous year

This priority ties to each of the five CSHCN NPM's. Data will be obtained from an annual survey with questions targeting the measure. Assistance from Departmental and other experts on survey development will be required. This measure should show an increase in subsequent years.

**SPM 7**. The percentage of CSHCN care coordination staff expressing unmet needs related to workforce development and/or training

This priority ties to CSHCN NPM's 4, 5 and 6. Data will be obtained from an annual survey of CSHCN staff with questions targeting the measure. Assistance from Departmental and other experts on survey development will be required. This measure should show a decreasing percentage over subsequent years.

#### 6. Outcome Measures - Federal and State

While Arkansas has not articulated any state-specific outcome measures, the MCH programs in Arkansas are intended to reduce infant, child and maternal mortality. The Federal Outcome Measures include infant, neonatal, post neonatal, perinatal and child mortality rates. They also address factors that exist in the causal chain leading to infant and child death. For infant death those factors include prematurity, teen birth, lack of prenatal care, and the needs of certain infants for neonatal intensive care. For child death, they include lack of regular and preventive child health care and appropriate health care for those with special conditions. In addition, they address common illnesses causing hospitalization as well as environmental issues such as motor vehicle accidents and asthma. To these measures, Arkansas, as well as other states, brings a measured emphasis to women's health on the grounds that healthy women have healthier pregnancies leading to healthier newborns and children. Because unintended birth links statistically to many factors related to infant death, especially teen birth and unwed birth, Arkansas includes Family Planning services and their many associated community based activities and policies as critical measures to prevent infant death.

Maternal mortality bears mention because of a recent study from California that suggests rates may be on the rise. Because of the changing way in which maternal deaths are counted, some confusion exists regarding the actual magnitude of any increase. "Casting a wider net" by adding relevant variables to birth and infant death records, and increasing surveillance by linking deaths to women during their reproductive years to live birth and stillbirth events, are being explored by many states including Arkansas. Until this process is settled and some consistency is achieved, following maternal mortality rates at the state level will continue to be fraught with confusing variability. Even with a wider net, the annual numbers of maternal deaths in a state the size of Arkansas (20-25 deaths) will remain somewhat unstable. It takes a state the size of California to provide detailed investigation of this rate.

Broadly speaking, Arkansas has chosen to use federal dollars for salaries and other costs of direct preventive services provided by ADH, and UAMS, including family planning, prenatal care, high risk perinatal care, newborn hearing and metabolic screening, vaccinations and services for special health While in our state well child care and developmental screening have been care needs children. assigned to primary care clinicians, federal dollars also support ADH and DHS program leaders such as physicians, nurse practitioners and nurses who guide programs to work actively with important health care partners such as Human Services and university and community medical practices to enhance direct services for children. Besides direct services, Arkansas has used federal MCH dollars to pursue many collaborative efforts. Among these are 1) enhanced care activities such as referral to WIC Services, presumptive eligibility in Medicaid for pregnant women, contraceptive services funded by a Medicaid Waiver, outreach and referral services for all Medicaid patients through the Connect Care program; and 2) population based services such as newborn screening, SIDS counseling and vaccine services given by other providers. Especially, Family Health Program leaders, in association with leaders of other ADH programs have addressed infrastructure activities. These include collaborative efforts with other programs to increase public awareness and in other ways assure effective care for all pregnant women and children. Policy changes at the level of the state General Assembly including changes to improve physical activity and nutrition and to reduce the use of tobacco products are among Arkansas's achievements in recent years. It is largely through enhancing broad systems of care and health policy in the state that the Arkansas Department of Health strives to improve health outcomes of women and children.

Attachments S, X, AA, ZZ, YYY, and ZZZ contain charts showing trends in outcome measures, mostly desirable. Infant mortality rates for the state (ZZZ) have thankfully declined since 2007, with evidence of more durable declines in post neonatal mortality. The drop for the Southeast Region has been particularly strong, reflecting a region with the highest concentrations of African American births. Neonatal death rates follow suit. Remarkably, the disparity in infant mortality rates (S) has declined somewhat following a peak, consistent with the trends in infant death, but the ratio is still far too high. Perinatal mortality (YYY) is less convincing, but probably not increasing. Low birth weight and preterm birth rates (X) seem to have stabilized. Birth rates (ZZ) among 18-19 year olds have trended downward slightly since 2006, while rates among 15-17 year olds are essentially flat. Sadly, the percentage of births to women who received first trimester prenatal care (AA) has continued to decline. Renewed efforts to assure awareness of and access to prenatal care are particularly critical needs. The ADH cannot relax its vigilance nor demur in its efforts to recruit to early prenatal care. The Agency should look anew at improving the distribution of its prenatal clinics in local health units. Funding in Arkansas is not available for care coordination for family planning and prenatal services. Were that the case, further declines in infant mortality could be predicted. As African American disparities in infant mortality continue, it will be especially important to undertake newly designed and funded activities toward cultural competence and acceptability of services by African American citizens. The leadership of the MCH Bureau will be a critical factor in designing and implementing these new efforts. An addition to the MCH Pyramid of Services is indicated to identify disparities issues in infant and other mortality measures. Guiding efforts from the Bureau in that direction are needed.

#### C. Needs Assessment Summary

The 2011-2015 Needs Assessment provides a thorough portrayal of the health status of pregnant women, infants, children, youth, and children with special health care needs in Arkansas. Following a comprehensive analysis of many pieces of data from a multitude of sources, the MCH program has identified relevant trends in key health measures for all these sub-populations. State and community capacity to address needs has also been delineated. As a result of data analysis and an organized effort to solicit input from numerous partners and stakeholders, several priority areas have been identified, although many other issues will continue to be pursued with intense effort as well. Priorities for 2011-2015 are to:

- -Reduce births to older teens
- -Reduce smoking among women of childbearing age
- -Improve trauma care for children
- -Improve oral health in children and women
- -Reduce obesity and overweight among school-aged children
- -Improve communication between the Title V CSHCN program and the CSHCN population
- -Improve training and program development for the Title V CSHCN workforce

Since the last 5-year Needs Assessment, a number of important trends have been studied with respect to health status of the various sub-populations. Births to 18-19 year olds have not increased, but have remained continually very high in Arkansas. The state has the highest birth rate in the nation to this age group according to a recent Guttmacher analysis. As for smoking among women of childbearing age, Arkansas ranked eighth-highest in smoking-attributable mortality among females in a 2009 CDC report. Trend analysis also demonstrated that rates of smoking-related mortality among Arkansas women were increasing during the past decade. Child deaths due to injury have also persistently plagued Arkansas for many years, although provisional data for 2008 show evidence of decline. The state has never before had any semblance of a statewide trauma system. The absence of such a system has been blamed for a significant portion of the state's excess injury mortality. Oral health is a problem for many Arkansans, but especially for children and women. While strides have been made over the last ten years in the proportion of Arkansans whose public water supply is fluoridated, much work remains. The same can be said for obesity and overweight prevention. The state has one of the highest childhood obesity rates in the country. Rates of overweight/obese among school-aged children in Arkansas have changed little over the last five years, but institution of much stricter controls on school nutrition and vending practices may have at least helped to stabilize what before was a rapidly increasing trend. To prevent major morbidities and premature mortality in later life, continued emphasis on prevention of childhood obesity is imperative. Technology limitations within the CSHCN system must be addressed to enable

families and professionals statewide the ability to research and connect with the services already in place to serve CSHCN. The same technological limitations impact the training needs of the CSHCN workforce.

Capacity to address the chosen priorities is also a vital consideration. Since the last 5-year Needs Assessment, changes have definitely occurred with respect to the teen births priority. Funding for both the Unwed Births and Abstinence Education programs has lapsed, taking some MCH administrative capacity with them. However, new opportunities exist with recently announced federal teen pregnancy prevention initiatives. Other newly acquired capacity includes nine school wellness centers to be established in the 2010-11 school year. More could also be done through existing ADH family planning clinics and around the Medicaid FP Waiver. Capacity related to smoking reduction in women has not changed appreciably, but again more could be done through ADH clinics. A major change in capacity related to childhood injury is the recent work to begin development of a statewide trauma system. A new section has been born within the Injury Prevention and Control Branch, multi-agency work groups have been established and a state trauma registry is being created. These efforts will undoubtedly pay off in reduced injury mortality over the next several years. Capacity for improved oral health is growing steadily as a result of partnerships between ADH and the Delta Dental Foundation and private entities such as Arkansas Children's Hospital (including the Natural Wonders movement). Momentum continues to grow toward the goal of full fluoridation of all public water systems. Capacity to combat childhood obesity also continues to grow steadily through activities of the Child Health Advisory Committee, Coordinated School Health, the Arkansas Coalition for Obesity Prevention and grants to communities from private funders such as Robert Wood Johnson. CSHCN capacity for improvement in communication and access to quality information and services on special health care needs will involve the state of Arkansas' contractors, Northrop Grumman and Information Network of Arkansas (INA). Dedication of staff time to the development of these resources will be required, as well. In addition, collaboration with DHS Office of Human Resources Organizational Development and Training will be required to develop the online employee resources required.

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## Attachment A – CSHCN Community Forum Data

## **Community Forums**

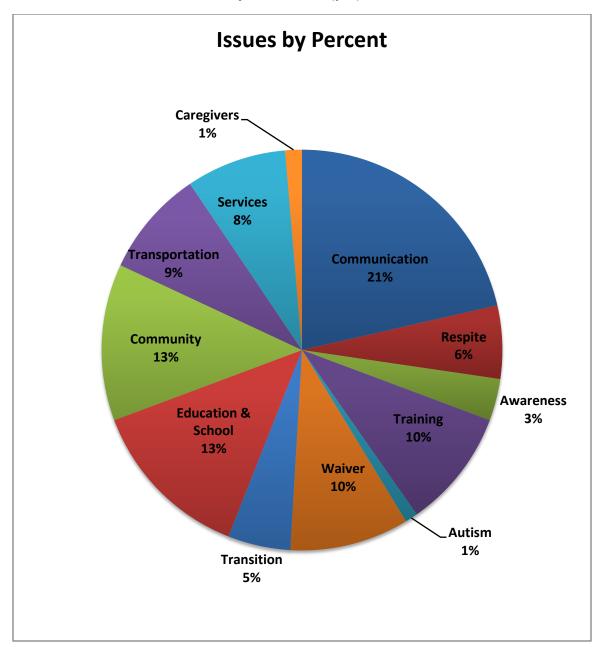
Community forums were conducted throughout the state of Arkansas in the following 11 towns: Batesville, Clarksville, Hope, Jonesboro, Magnolia, Mena, Monticello, Mountain Home, North Little Rock, Springdale, and Stuttgart.

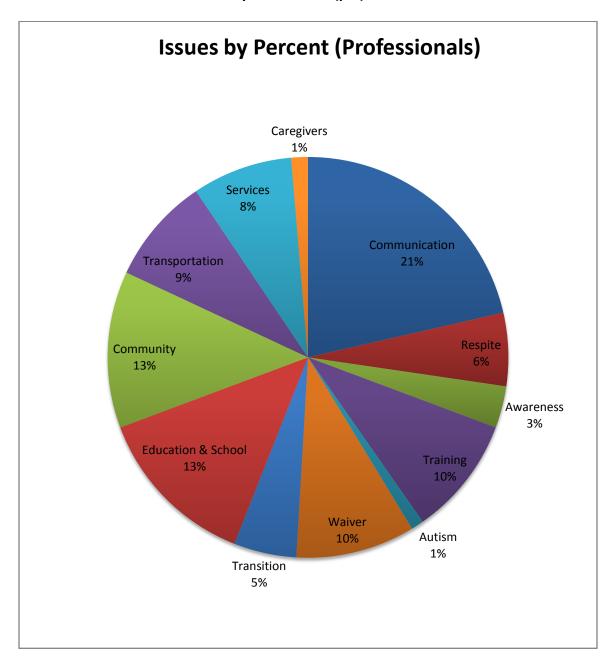
## **Cumulative Totals from all forums:**

<u>Issue</u>	<u>Total</u>	<u>Percent</u>	
Communication	127	21.4%	
Respite	35	5.9%	
Awareness	20	3.4%	
Training	57	9.6%	
Autism	6	1.0%	
Waiver	57	9.6%	
Transition	30	5.1%	
Education & School	79	13.3%	
Community	75	12.6%	
Transportation	51	8.6%	
Services	48	8.1%	
Caregivers	8	1.3%	
	593	100%	

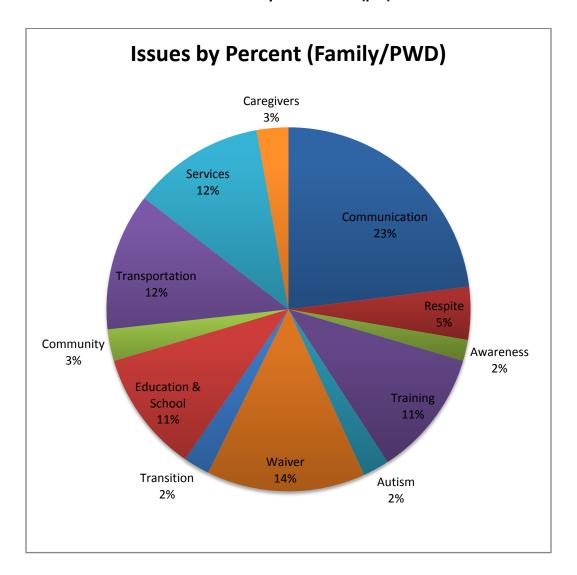
## **Cumulative Totals from all forums by Professional or Family/PWD:**

Professi		Family/PWD			
<u>Issue</u>	<u>Total</u>	Percent	<u>Issue</u>	<u>Total</u>	Percent
Communication	49	23.0%	Communication	51	18.2%
Respite	10	4.7%	Respite	23	8.2%
Awareness	4	1.9%	Awareness	7	2.5%
Training	24	11.3%	Training	33	11.8%
Autism	5	2.3%	Autism	1	0.4%
Waiver	30	14.1%	Waiver	27	9.6%
Transition	5	2.3%	Transition	25	8.9%
Education & School	23	10.8%	Education & School	40	14.3%
Community	6	2.8%	Community	23	8.2%
Transportation	26	12.2%	Transportation	25	8.9%
Services	25	11.7%	Services	23	8.2%
Caregivers	6	2.8%	Caregivers	2	0.7%
	213			280	





### Attachment A – CSHCN Community Forum Data (p.4)



# 1. Which services provided by Title V are most needed by the children and families?

- It's not one service, it's the program as a whole (more providers, staff, and money)
- Transition care, parent education, education of the staff who make referrals
- Family support & respite care
- Personal care staff many are consumed by the elderly population & there are not enough left for the children
- Personal care staff who are able to help early in the morning before school, before the bus comes
- Respite care
- Programs for children in the summer months, particularly children over the age of 5 years
- Case management (parents are not aware of services available due to lack of knowledge) (ditto)
- Payment for services medical care, respite, camps, family supports
- Services for transition to adulthood (but need to strengthen); guardianship needs work; need to be more proactive in transition
- School clothes
- Empowerment, instead of enabling; are making helpless
- Information about services
- There is a lack of providers in south Arkansas

# 2. What is the greatest unmet need for the Title V children or their families?

- Physicians across the state are unaware of services provided and don't make enough referrals
- Not enough providers in the rural areas of the state also child care for children with disabilities
- Southeast Arkansas lacks many providers and the families can't afford to travel to Little Rock to receive services
- Personal care staff available to serve children
- Personal care staff available in the mornings
- Lack of funds & providers
- Enough staff (nurses, etc) to properly manage the cases
- A better tracking system for children with needs kids are coming in that DDS has never heard of
- Expanded funding to cover services necessary for autism
- Medicaid advocates
- Need for parent education
- Hearing aids, PT, Insulin-pump supplies
- Immediate help (the processes can take 30-40 days)
- Help getting clients extended coverage

#### Attachment B - CSHCN Focus Groups (p.2)

- More waiver slots 5 years is too long to wait
- Autism services are lacking-as are services for children with any type of behavioral issues
- Presumptive eligibility for children moving to AR who have qualified in other states
- Many students are not being educated. Parents may not speak up to get their child back in school. The Department of Education should do more to assist families
- Community programs that are specialized and affordable
- Mental health services problems identified in younger children; not able to access CASSP or system of care
- There is a lack of providers in south Arkansas
- Respect for families
- There is a shortage of primary care physicians
- Transition services are lacking especially medical; lack knowledgeable adult providers
- Better transportation is needed, especially for children with severe disabilities
  - Used to pay mileage; still needed
- Need a simpler process for waiver application
- Need regional interdisciplinary teams to send to clinics to see kids
- Need after school and summer care for children with special needs
- Funding is need for more equipment (There is a challenge balancing cost of equipment and other project needs. UCP sometimes offers equipment.)
- Transportation to service providers
- Need more satellite clinics
- Families need gas checks
- Need to de-centralize services from central Arkansas
- Finding available services
- Assistance with paperwork
- Need staff members who are located permanently in the office
- Help with behaviors (ditto)
- Supports at school
- Timely evaluations and assessments

#### 3. What problems do you encounter in the course of providing services?

- Lack of providers in the region
- Difficulty getting certain tests (Bailey, Batelle)
- Lack of ABAs and ABEs
- Uncooperative schools; major difference rural
  - o Difficult getting schools to understand the problem
- Need more Title V staff members (can't be proactive)
- Difficulty finding support groups
- Educating parents
- Some forms are not electronic and require a typewriter
- Redundant paperwork; need to develop common forms across programs
- Time for paperwork (ditto x 4)
- Time required for assisting families with limited literacy in filling paperwork (and often bring wrong paperwork)

#### Attachment B – CSHCN Focus Groups (p.3)

- Slow approval for services
- Families missing deadlines
- Families that come to town once a month
- Audits at 3 levels federal, regional, and state; overwhelmed with reports and goals
- E-mails are constrained due to HIPAA
- Challenges with discretionary spending
- Need more services throughout the state; not all can come to Little Rock
- Need list of everything needed for 3 years; check-off list
- Would like to go back to old way of doing things; one person per county

# 4. How much time do you spend serving children & families who only speak Spanish (or are non-English speaking)?

- Varies by region
- very rarely in Pulaski country
- NWA has group of Marshallese and Hmong
- 60-75% of non-Medicaid is non-English speaking; when accept application, a secretary translates the form on the computer; need to translate all information into native language; typically spend about an hour assisting one family; use 3-way telephone conferencing to interpret; also have Chinese, Koreans, and Vietnamese; children should not be used as interpreters (2 others voiced same problem but not on same scale)
- can be very time consuming because interpreters don't understand the programs
- being thorough with the family saves time in the long run
- need local interpreters that are familiars with the programs available
- 5-10%
- 1 case in 15 years
- 5 families in Johnson county
- 1-2%
- 1-2%
- 1-2%
- 5%, usually just 1 patient who happens to be quite sick
- Very little contact, but they do use Spanish forms, more of which need to be translated
- Sometimes end up using to children to translate, even though it is not ideal
- NW AR staff spends more than half their time on 20% of cases
- Many Marshallese in NW
- Need in-house translators
- Need Spanish interpreter in office
- Delays in initiating telephone interpreter service
- Complications of male-female roles
- Use friend of family as interpreter
- Use Catholic Church staff
- Use school district personnel
- Used Kids First
- Used teleconference
- Partner with Arkansas Support Network in NE Arkansas

#### Attachment B - CSHCN Focus Groups (p.4)

- Must build trust with client
- Families may hang up when telephone reads that call is from DHS

#### 5. Should more time be spent developing service infrastructures?

- Building infrastructure would stretch dollars farther and provide services that are more fair for all
- yes health care is changing and we need to adapt to keep up (ditto)
- health care reform may bring on headaches, we need to prepare
- Yes and more time for education. Too much time is being spent on direct care
- need to hire someone who can do paperwork
- emphasis on the waiver too much time is spent on waivers
- Staff doesn't follow chain of command; Director handles requests from families instead of referring
- Staff spends a lot of time with CASSP teams
- We should empower people instead of enabling them current approach makes helpless
- Spend time streamlining services putting on computer and developing common applications (need to streamline paperwork) (ACH billing)
- Need new computers (develop touch screen programs for families to use)
- Use cell phones with families to reduce time for services
- Need to meet families in their community (such as churches) with laptops
- Add more staff to serve more families better
- Hire social workers
- Need policies that improve efficiency and effectiveness
- Develop electronic infrastructure, including electronic medical records (duplication of record keeping within DDS)

# 6. What would you do differently if there were no financial constraints on the program?

- hire more workers (many agreed)
- place 1 nurse & 1 social worker per county (or two county area) this would enable them to provide more services because you would be less spread out
- More manageable service areas; Rural counties are so rural & spread out they often spend all day visiting 1 or 2 patients
- If there were more employees they could do more (ditto)
- Can't provided quality care when they are required to provide this quantity of care as a result, face to face time is diminished
- Provide additional coverage example kids who are not eligible for Medicaid due to citizenship
- More emergency funds

#### Attachment B - CSHCN Focus Groups (p.5)

- More money for funds, but if this happens, stiffer guidelines are necessary, including parent responsibility/accountability
- More respect to "severity" of autism/other diseases. The lower functioning kids need more than the higher functioning kids do
- When kids get "too well" they stop qualifying for services
- Reach out to families; look at total family needs not just what they ask for
- Reduce paperwork (ditto)
- Reduce the 6-month wait for treatment at the Dennis Center
- Return to old staff levels with additional secretaries and social workers doing more than case management
- Empower families the more we give, the more they demand
- Set priorities and guidelines for distribution of funds
- Larger areas need more staff

# 7. Are there areas you would like to attempt to coordinate with other providers?

- It varies by location
- Meetings between DDS and providers would be beneficial (1-2x/year?)
- Autism special funding lacked guidelines & deadlines. The program is out of money but they are still processing applications. If more money is coming in programs like this the staff needs to set up a better plan
- Secretaries are taking on more tasks then necessary in order to be thorough
- More work with schools to help assist with these children until parents get home from work
- Relationship with providers so kids can get therapy outside of school setting
- We need more speech, occupational & physical therapy providers in the state
- The list at DDC is too long and often requires travel for the family it would be nice to evaluate kids at various clinics around the state
- Early intervention program needs more information about waiver services
- Collaboration with DCFS & DYS and within DDS (ditto)
- More support within DDS
- DDS needs more information about Title V (ditto, ditto)
- Need joint training with DCFS workers
- Cross training across DHS divisions
- Medicaid program needs to know what title V can do for them
- Not getting referrals from EI
- Programs need to refer back to Title V
- Joint training with Division of Children and Family Services (ditto)
- Need referrals from Early Intervention (ditto)
- Need to move away from the upside down pyramid
- Can't stretch far enough to make it fair for all participants
- Relationships are critical
- Arkansas Children's Hospital outreach clinics
- ACH in Jonesboro (has special needs program)
- DHS

#### Attachment B - CSHCN Focus Groups (p.6)

- Physicians (primary care docs & pediatricians need help knowing where to refer) (ditto)
- School nurses
- Joint training with DHS divisions
- Department of Health
- Department of Education

#### 8. Do families participate in decision making?

- Yes, and not just through the PAC
- Parents have good ideas
- More than waiver families utilize serevices

#### 9. Do you have unmet training needs?

- Information/training on early intervention services. When CMS merged they were no longer "qualified" for the jobs
- ½ of her salary is from EIS and she has not received any training there, so she feels like she is not capable of doing her job anymore
- Less time to do more work, all without training (many agreed)
- They are being handed so many tasks and no training
- No training, put new employees at a disadvantage when they begin
- Training manual is outdated and no longer helpful
- Everyone is too busy to update the manual
- Department lacks formal training that was available in the past. "No time" is not an acceptable excuse
- No funds for training
- Even if there was training, we are too busy to be able to do it
- Social workers don't have medical knowledge, but are assumed & expected to know how to do a nurses job & vice versa
- It would be helpful to have a social worker & nurse in each county so you can do more & not have to know everything
- Secretaries and nurses educated about available services; can disseminate general information and resources
- Autism and behavioral analysis and developing autism teams (ditto)
- ABA
- Beyond the Borders
- Psychological assessments
- Developmental assessment tools
- Genetic issues (ditto); syndromes
- Newborn screening
- How to navigate the DDS system
- Coordinating services with DDS and submission of paperwork
- What services are available to families
- Coordinate training on 6 databases in sequence
- Include secretaries in training
- Birth-19
- Joint training with DCFS
- DDS services
- Waiver (ditto) (ditto) (ditto)

#### Attachment B - CSHCN Focus Groups (p.7)

- Interface with Medicaid and Medicare systems; coding and payment issues
- Electronic data systems
- Special health care needs
- Basic components of our job since there is a lot of turnover
- Need training with the waiver unit
- One training for professionals and another for clerical
- Regional trainings with one person doing the training, rather than a team of trainers
- CASSP
- Train supervisors, who can then share the information with their workers
- Have a trainer on staff
- Using the Web

#### How can the state improve services?

- Better communication in transitioning at IFSP meetings
- Need to make the Parent Advisory Council more active and accountable, with better record keeping. Need to be better utilized
- Better website
- More Title V staff (ditto, ditto, ditto, ditto)

# 10. What would happen if the Title V Children's Services program went away?

- we'd be in a heap of trouble
- children would not get services
- families would be lost
- kids will be taken out of their homes and taken to foster care
- there would be no resources for transition, more violence and no parent training
- there would be a need for more HDC, more juvenile facilities
- more homeless people
- families would not have anyone to call or talk to in the cas of an emergency
- for children at an income not eligible for Medicaid their families would go bankrupt/be forced to separate to become eligible
- kids would be in real trouble & no longer receive evaluations

#### 11. What do you wish the program knew?

- We have no money to offer services
- The number of calls we take each week
- Administrators should see what is actually happening; shadow us for one day

#### 13. What advice would you like to give to Title V planners?

- We need efficient and effective policies
- It is important to have time to build relationships
- Need support from MCHB to protect the Title V program

#### **Attachment C**

# A White Paper on Reducing Infant Mortality in Arkansas

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Gordon Reeve, PhD
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Arkansas Department of Health
January, 2009

#### **Reducing Infant Mortality in Arkansas**

#### I. Introduction

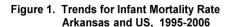
An infant death occurs when a live born baby dies before its first birthday. The infant death rate, commonly called the infant mortality rate, is the number of infant deaths in a year per 1,000 live births. Epidemiologists categorize infant deaths into those that occur in the first 28 days of life called neonatal deaths, and those that occur in the remaining 11 months, called post-neonatal deaths.

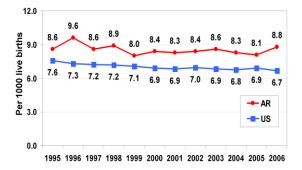
#### II. Why is infant mortality a public health priority?

Every infant death is one too many. For families it is a tragedy and for communities it represents the loss of a lifetime of productivity. A nation's or state's infant mortality rate is frequently in the news because the rate is recognized as an important indicator of a community's overall health. The most important single cause of infant death is prematurity, being born preterm (under 37 weeks of pregnancy) or at low birth weight (under 5½ pounds). Though nearly all mildly premature babies survive, the most severely premature (under 3½ pounds) may die or go on to survive at great health care expense, some of whom still suffer life-long disabilities. With infant mortality rates twice that of whites, African American babies experience the most excess deaths.

#### III. What is the magnitude of infant death in Arkansas?

In calendar year 2006 in Arkansas, 359 babies died before their first birthday, for an infant mortality rate of 8.8 deaths per 1000 live births. The infant mortality rate trend for Arkansas is shown in Figure 1 as it compares to the US trend. The National Center for Health Statistics reported a 2005 infant mortality rate for Arkansas as 7.84. That rate ranked Arkansas as 39th among all states, with only 11 states having worse rates. In 2001, the US infant mortality rate ranked our country worse than 26 other developed nations. In 2004, the Arkansas neonatal death rate was 4.7 per 1,000 births. The postneonatal death rate was 3.4. These rates are compared to those for the US in Figure 2.





Sources: National Center for Health Statistics (NCHS) and Health Statistics Branch, Arkansas Department of Health

Figure 2. Infant Deaths and Rates by Age at Death, AR 2005, US 2004

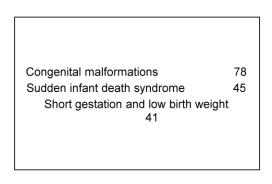
Age at Death	AR Number <sup>1</sup>	AR Rate <sup>1</sup>	US Rate <sup>2</sup>
Infant Neonatal	319 184	8.1 4.7	6.8 4.5
Post Neonatal	135	3.4	2.3

Sources: 1. Health Statistics Branch, Arkansas Department of Health 2. NCHS, *National Vital Statistics Reports*, Vol. 55. No. 14. May 2007

#### Attachment C (p.2)

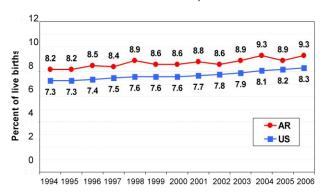
Arkansas's neonatal mortality rate is close to that of the nation; but the state's postneonatal mortality is considerably higher than the US rate. The three most frequent medically diagnosed causes of infant death appear in Figure 3. The most important cause of infant death is low weight birth, which is trending upward in Arkansas, Figure 4.

Figure 3. Infant Deaths in Arkansas, Top Three Causes, 2006



Source: Health Statistics Branch, Center for Health Practice, Arkansas Department of Health

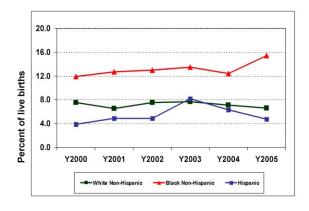
Figure 4. Trends for Low Birth Weight Rate, Arkansas and US, 1994-2006



Sources: 1. National Center for Health Statistics (NCHS) and 2. Health Statistics Branch, Arkansas Department of Health.

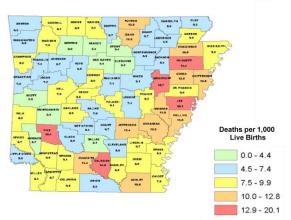
The burden of infant death is not shared equally among Arkansas residents. Arkansas trends for infant mortality by race and ethnicity appear in Figure 5. County infant mortality rates for the five-year period 2001-2005 for all races are shown in Figure 6. Further scientific analysis is available at the Arkansas Department of Health.

Figure 5. Trends in Infant Mortality Rates by Race/Ethnicity, Arkansas 2000-2005



Source: Health Statistics Branch, Center for Health Practice, Arkansas Department of Health

Figure 6. Infant Mortality by County,
Deaths per 1,000 Live Births,
Arkansas 2001- 2005



Source: Health Statistics Branch, Center for Health Practice, Arkansas Department of Health

#### Attachment C (p.3)

#### IV. What are some practical solutions to the infant mortality problem in Arkansas?

Infant mortality causes include many different factors. No single answer exists to reduce it dramatically. Achieving measurable reductions requires multiple strategies that reinforce each other. We know that the three most common medical causes of infant death are birth defects, SIDS and prematurity. Pursuing linked community-based strategies may have measurable impacts on some of the causes of infant death in a five-year time horizon.

Three sets of strategies exist to address known problems and opportunities:

#### A. Statewide program approaches:

- 1. Adolescent births contribute disproportionately to infant death through low-weight birth, preterm birth and SIDS. Needs and opportunities include:
  - a. The Arkansas adolescent birth rate is increasing especially for Hispanic births.4
  - b. Adolescent births are much more often unintended or unwanted.<sup>5</sup>
  - d. Low income women responded to recruitment efforts in the Women's Health trial.6
- 2. Core public health services capacities are needed in many communities in Arkansas to serve low income women, especially prenatal care. Opportunities include:
  - a. Outreach and recruitment efforts for many preventive health services are widely used and promoted, though few rigorous evaluations are published.<sup>7</sup>
  - b. Maternity care coordination has been associated with improved outcomes.8
  - c. Pre-pregnancy health status explains about 40% of preterm delivery.9
  - d. Low income women benefit from pre-conception and inter-natal health counseling strategies, especially for smoking, folic acid and SIDS awareness.<sup>10</sup>
  - e. Social marketing for public health has been advocated and reviewed. 11,12
- B. Recommended approaches in selected demonstration project communities:
  - Assure adequate capacity in family planning and prenatal clinic services.
  - 2. *Provide outreach and recruitment* for family planning, maternity and other core public health services such as WIC and Immunizations.
  - 3. *Initiate care coordination* for family planning and especially prenatal care services, introducing pre-conception and inter-natal health counseling for clients.
  - 4. Conduct public awareness campaigns emphasizing these themes:
    - a. Consequences and costs of adolescent birth.
    - b. Importance of good health among youth including good nutrition; physical exercise; not using tobacco, alcohol or drugs; folic acid supplementation; and early identification and management of chronic disease.
    - c. Importance of parenting practices like well child care and back-lying sleep position.
    - d. Importance of using preventive health services such as family planning, maternity, WIC and immunization programs.
    - e. Availability of these services for low income women in the community.
- C. Statewide public awareness campaigns supporting community programs:

  Mass marketing strategies could address and reinforce community activities by
  emphasizing the same themes listed above.

#### Attachment C (p.4)

#### V. How is progress to be evaluated in Arkansas?

Progress in each one of these areas should be carefully evaluated. First, with each intervention the community's actions must be assessed for changes in service to patients, and in publicity, education and training efforts. Next, the changes must be assessed for intermediate impacts such as knowledge and behavior change (surveys) and increased use of basic and preventive services (birth certificate data, ADH encounter data, tobacco program data, and surveys). Then, these interventions need to be assessed with respect to their impacts on preterm births, low-weight births and infant deaths (birth and infant death certificates). Data on Arkansas programs that follow all of these measures are already being collected.

Infant death reviews are a useful way to identify existing problems in health systems and follow progress toward their solution. Review of medical and other individual records related to an infant's death is advocated by CDC and HRSA. Koontz, et al of the MCH Bureau described programmatic development of infant death reviews in many community based projects in the US.13 Misra, et al, conducted a national evaluation of 74 community based projects that performed infant mortality review.<sup>14</sup> These authors described these reviews as "useful," but also saw the strenuous nature and expense of performing them, ultimately recommending that the effort be combined with maternal mortality and child death reviews. A particularly well-done infant death review was conducted in Minneapolis-St Paul, highlighting teen pregnancy, late prenatal care (barriers), violence (suicide and homicide), substance use and abuse (tobacco, alcohol, drugs), and unwanted or mistimed pregnancies. 15 Such a review was done in Arkansas between 1997 and 2000, revealing much the same concerns, but especially emphasizing the lack of community availability of grief counseling services. Disparities in mortality and preterm births might be further illuminated by a renewed effort at death reviews.

#### References

- 1. Health Statistics Branch, Center for Health Practice, Arkansas Department of Health
- 2. National Vital Statistics Reports Vol. 57, No. 2, July, 2006, NCHS, CDC, p 5
- 3. Martin J, et al, Annual Summary of Vital Statistics 2003, Pediatrics Vol. 115, No. 3, March 2005, 619-634
- 4. Senner J, Health Statistics Branch, Center for Health Practice, Arkansas Department of Health
- 5. McGhee M, PRAMS, Health Statistics Branch, Center for Health Practice, Arkansas Department of Health
- Velott DL, et al, Participant recruitment to a randomized trial, Women's Health Issues 2008, May-Jun, Vol. 18, No. 3: 217-24
- 7. Dryfoos J, Preventing teen pregnancy: what works, Planned Parenthood Reviews, 1986, Spring, Vol. 6, No. 2: 6-7
- 8. Buescher P, et al, Impact of maternity care coordination on Medicaid birth outcomes, Am J Pub Health, Vol. 81, No. 12, 1625-1629
- 9. Haas J, et al, Prepregnancy health status and the risk of preterm delivery, Arch. Ped. Adol. Med. Vol. 159, Jan, 2008
- 10. Korenbrot C, et al, Preconception care: a systematic review, MCH Journal, Vol. 6, No. 2, June 2002, 75-88
- 11. Chapman D, et al, Social Marketing for Public Health, Health Affairs, Summer, 1993
- 12. Abroms L, et al, Effectiveness of mass communication to change public behavior, Annual Rev. Public Health, 2008, Vol. 29: 219-234
- 13. Koontz A, et al, Evolution of fetal and infant mortality review, MCH Journal, Vol. 8, No. 4, December, 2004, 195-203
- 14. Misra D, et al, Evaluation of fetal and infant mortality review programs, MCH Journal, Vol. 8, No. 4, 2004 217-229
- Fogarty C, et al, Project LID (lower infant deaths) lessons learned from a local infant mortality review project, Minnesota Medicine, August 2000, Vol. 83

# A Background Study

### **To Support**

# The White Paper on Reducing Infant Mortality in Arkansas

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**July, 2009** 

#### Attachment D (p.1)

#### **Background Study on Infant Mortality in Arkansas**

July, 2009

#### **Abstract**

This study was prepared to provide scientific and technical background for a White Paper on policy development related to infant mortality in Arkansas. Both documents are being used to discuss Arkansas Department of Health priorities and potentials for action steps in the agency's strategic planning process and to discuss the broad issue of infant mortality with community health leaders throughout the state. This background discussion includes infant mortality rate as a statistic, its importance as a public health priority, its magnitude in Arkansas, and its scientific background. Further, the paper describes some evidence based solutions as possible choices for action, a model for community based strategies, and finally some guidelines for evaluation of progress towards its reduction. The question and answer format originated with the Science Advisory Committee of ADH.

#### I. Introduction

An infant death occurs when a live born baby dies before its first birthday. The infant death rate, commonly called the infant mortality rate, is the number of infant deaths in a year per 1000 live births. Epidemiologists categorize infant deaths into those that occur in the first 28 days of life, (neonatal deaths) and those that occur in the remaining 11 months (post-neonatal deaths). Rowley D, *et al*, discussed neonatal and post neonatal mortality from the perspective of CDC using national data and examples of several states.<sup>1</sup>

#### II. Why is infant mortality a public health priority?

Every infant death is one too many. For a family it is a tragedy and for communities it represents the loss of a lifetime of productivity. A nation's or state's infant mortality rate is frequently in the news because the rate is recognized as an important indicator of a community's overall health. The most important single cause of infant death is prematurity, that is, being born at low birth weight (less than 5 ½ pounds) or prior to term (less than 37 weeks of pregnancy). In fact, nearly all mildly premature babies survive, but the most severely premature may die or go on to survive at great health care expense, some of whom still suffer life-long disabilities. With infant mortality rates twice that of whites, African American babies experience the most excess deaths.

#### III. What is the magnitude of infant death in Arkansas?

#### Attachment D (p.2)

In calendar year 2006 in Arkansas, 359 babies died before their first birthday, for an infant mortality rate of 8.8 deaths per 1000 live births.<sup>2</sup> The infant mortality rate trend for Arkansas is shown in Figure 1 as it compares to the US trend. The National Center for Health Statistics reported a 2005 infant mortality rate for Arkansas as 7.84.<sup>3</sup> That rate ranked Arkansas as 39th among all states, with only 11 states having worse rates. In 2001, the US infant mortality rate ranked our country worse than 26 other developed nations.<sup>4</sup> In 2004 the Arkansas neonatal death rate was 4.7 per thousand births. The post-neonatal death rate was 3.4. These rates are compared to those for the US in Figure 2. Arkansas's neonatal mortality rate is close to that of the nation; but the state's post-neonatal mortality is considerably higher than the US rate. The most frequent causes of neonatal death appear in Figure 3, and those for post-neonatal death in Figure 4. The most important cause of infant death, low weight birth, is trending upward in Arkansas. That trend appears in Figure 5.

The burden of infant death is not shared equally among Arkansas residents. Arkansas trends for infant mortality by race and ethnicity appear in Figure 6. County infant mortality rates for the five-year period 2001-2005 for all races are shown in Figure 7. High rates occur in counties with rural, poor and minority populations, the Mississippi Delta. Arkansas trends for neonatal and post-neonatal death rates by race and ethnicity are shown in Figures 8 and 9. Black infants die at greater rates in part because their low birth weight rates are twice as high, Figure 10.

#### IV. What does science tell us about infant mortality?

Influences leading to infant death are many and complex. They range from broad national economic<sup>5</sup> and social<sup>6</sup> issues, to health care systems concerns, neighborhood environments, family supports and individual health problems for the mother and baby. This paper explores a narrower range of evidence, focusing first on known risk factors well-documented in birth and infant death records. These issues can be scientifically assessed by reviewing: a) the classified causes of death reported on the infant death certificate, b) known risk factors in women giving birth and related medical literature, c) a special discussion about preterm birth, and d) a special discussion on disparities in infant mortality.

#### a. Classified causes of death as listed in vital records

The International Classification of Diseases is a comprehensive taxonomy of medical conditions used to assign causes of deaths. Arkansas infant deaths by this classification are presented in Figures 3 and 4. The causes of highest frequency indicate a need to prevent congenital malformations (birth defects), premature births, Sudden infant Death Syndrome (SIDS), unintentional injuries, and a variety of perinatal conditions. Unintentional injuries, especially motor vehicle accidents, are studied in the safety literature and will not be discussed here. Taking a more inclusive look at other

#### Attachment D (p.3)

biomedical sciences, researchers are investigating at least eight broad questions related to infant death and preterm birth. They include: 1) gene-environment interactions, <sup>7,8</sup> 2) the etiology of low birth weight birth, <sup>9</sup> 3) the physiology of labor and patho-physiology of preterm labor, <sup>10</sup> 4) the patho-physiology of pre-eclampsia <sup>11,12</sup> and attempts to prevent it, <sup>13,14,15</sup> 5) the nature and effects of stress and depression during pregnancy, <sup>16,17</sup> 6) intimate partner violence, <sup>18</sup> 7) the epidemiology of SIDS, <sup>19</sup> and 8) racial disparities in pregnancy outcome. <sup>20</sup> Knowledge of the first 7 risk factor groups challenges health care providers to identify them before or early in pregnancy and apply clinical interventions to reduce their impact. Disparities arise from these and other profound differences in US life. Unfortunately, interventions that clearly prevent or effectively interrupt preterm labor are uncommon, because early delivery arises from a bewildering complexity of patho-physiologic, psychosocial, and health system issues. Addressing this broad causation requires resources that go beyond the clinical health care system. Using combined community approaches may work better. <sup>21</sup>

### b. Known Arkansas health risk factors, related Arkansas activities, and relevant medical literature

Well-known statistical risk factors collected from linking birth and infant death records are helpful in identifying community-based services that show some evidence of making a difference. The most commonly studied birth certificate risk factors are listed in Figure 11 showing frequencies and rates for births and deaths for the five-year period 2001-05. Figure 11 shows that conditions associated with very high mortality rates are fortunately rare, while those with lower mortality rates are more common. A Chi-square calculation appears in the right-hand column in the table, indicating high significance for all these factors in bi-variate analyses. The paragraphs below will all refer to Figure 11 in their explanations.

Arkansas infants with birth weights less than 3.3 pounds (1500 grams) had a mortality rate of 189.8, the highest rate in Figure 11. That compares to 8.2 for all births during this five-year period. Medical science has shown that these very low birth weight babies are best cared for in neonatal intensive care nurseries<sup>22</sup> and that regionalizing systems of perinatal care is effective.<sup>23</sup> Currently Arkansas is regionalizing the care of these babies by assuring that they are served in hospitals with neonatal intensive care units. Emphasizing regionalized consultation for both obstetrical and neonatal care, the ANGELS (Antenatal and Neonatal Guidelines, Education, and Learning System) is operated by the UAMS Department of Obstetrics Gynecology with support from Medicaid.<sup>24</sup> ANGELS develops evidence-based guidelines for physicians, and helps with stabilization and transport of these very low weight babies to neonatal intensive care services, especially those at UAMS and Arkansas Children's Hospital.

Arkansas infants born at gestational ages less than 32 weeks (more than 8 weeks before their due date) had a mortality rate of 160.6, the next highest in Figure 11. The

#### Attachment D (p.4)

ANGELS program also works to assure that mothers in labor at these very early gestational ages are referred for delivery to hospitals with neonatal intensive care units. The program also helps doctors identify medical complications of pregnancy and seek consultation when needed. ANGELS consultation and referral services are already enhanced by conferences and consultations conducted by telephone and television hookups. ANGELS also has a telephone hotline for doctors and patients that will help arrange consultations. ADH works in partnership with UAMS in this program, referring the high risk women seen in the public health clinics to these services. This program is a model for other states in using telemedicine. A rigorous evaluation of the ANGELS program is now under way. Growing preterm birth rates are discussed in section c.

Arkansas infants with birth defects had a mortality rate of 92.5. Although smoking and obesity are beginning to receive attention in association with congenital anomalies, neural tube defects (anencephaly and spina bifida) are best documented as being preventable by folic acid food fortification and dietary supplementation. Arkansas has worked with national campaigns to increase public awareness of the need to take folic acid vitamin supplements every day, starting well before a pregnancy. Despite initial campaigns, only about half of Arkansas women report taking a folic acid tablet every day. Atrash, et al, made the case for preconception and interconception health counseling around folic acid supplementation and other health issues; and Korenbrot, et al, documented effectiveness for several of these projects.

Twins, triplets, and higher multiples of births are at great risk. Arkansas triplets had an infant mortality rate of 77.7. Some say that multiple pregnancies have increased because more people take advantage of assisted reproductive technology services. Ragni, et al, suggest that mothers can now be helped to conceive with reduced risk of multiple births.<sup>29</sup> Professional education efforts through ANGELS and other venues could help make physicians more aware.

Arkansas infants whose mothers had no prenatal care had a mortality rate of 32.1. ADH Local Health Units (LHUs) have for a long time provided publicly subsidized prenatal clinics, now located in 54 Units in 51 counties. The Medicaid Program provides pregnancy coverage for women with incomes up to 200% of poverty. Despite these efforts, the Arkansas trend for early prenatal care is getting worse, as shown in Figure 12. While many evaluations have shown only modest improvements in infant mortality as a direct result of basic prenatal care, once a pregnant women is diagnosed as having a medical complication, her neonatal mortality rate is reduced by care from medical specialists. If maternity care coordination and outreach are added to the basic prenatal care service, an additional reduction in low weight births can be expected, primarily among those who are at higher demographic and economic risk. In the substitute of the substitute of

Arkansas infants born to mothers who smoked more than a pack of cigarettes per day had an infant mortality rate of 19.6. Self help guides can assist pregnant women to

#### Attachment D (p.5)

quit.<sup>32</sup> Smoking cessation before the end of the first trimester can reduce low birth weight births and save money.<sup>33</sup> The Arkansas Department of Health contracts with community providers to maintain a "fax-back" referral network to assist pregnant women to quit. As reflected in Arkansas birth records, there has been a gradual decline in the percentage of mothers who reported smoking during pregnancy. ADH prenatal clinics and other providers of prenatal care could do more to find and refer pregnant smokers.

Arkansas infants whose mothers were younger than 15 had an infant mortality rate of 16.8. Teen birth prevention is a major priority for the Arkansas Department of Health. Most of these births are "unintended" as defined by PRAMS survey questions. Teen sexual activity as reported in Youth Behavior Risk Surveys (YRBS) has not declined since 2000.34 Figure 13 shows that teen birth rates, having declined from 2000 to 2003, began to rise again after 2003. The rise was greatest in mothers delivering at ages 18 and 19, but birth rates for mothers 15-17, level in 2004 and 2005, increased slightly in 2006. Arkansas has pursued special community-based projects for Abstinence Education ("abstinence only") and Unwed Birth ("abstinence plus"). evaluation of Arkansas's Abstinence Education projects has shown only temporary impacts on sexual activities and intentions in self report studies. An initial favorable impact on a series of measured beliefs, intentions and behaviors returned to previous levels a year beyond the ending of the educational contacts.<sup>35</sup> A review by Thomas of other projects, including California's abstinence-plus program concluded that "up to the present time (2000 publication date), no evaluated program with an exclusive abstinence message has been evaluated in such a way as to show a significantly positive impact on behavior, though some have shown a desirable effect on attitude."36 A recent study in Cincinnati of nurse home visiting to first time pregnant adolescents showed an association to reductions in both low weight birth and infant death.<sup>37</sup> However, a careful evaluation of enhancing Medicaid payment for adolescent births in Alabama cautioned planners not to see reduction of infant mortality as a short term goal.<sup>38</sup> Considering women of all reproductive ages, family planning services can be effective. The Guttmacher Institute made the case that family planning can reduce infant death.<sup>39</sup> An evaluation by the College of Public Health at UAMS of the Arkansas Family Planning (Women's Health) Waiver reported associated reductions in unwanted births by delaying first births, increasing birth interval, and reducing the percentage of teen births occurring among all births.40

Arkansas infants whose mothers experienced medical complications of labor and delivery had an infant mortality rate of 14.7. Board certified specialists in family practice who have had training in obstetrics, and certified specialists in obstetrics and gynecology, are trained to handle most of these complications. Most infants in Arkansas are born in hospitals delivering over 500 babies a year by specialty trained physicians. ANGELS efforts to provide medical education, evidence based clinical guides, consultation and referral supports to these physicians address this concern.<sup>24</sup>

#### Attachment D (p.6)

Arkansas African American infants experienced an infant mortality rate of 13.4 compared to 7.1 for whites during the five-year period of 2001-2005. Disparities for African American infants in this state are discussed above and charted in Figure 6. Nationally, disparities of this magnitude have been experienced for decades, both for total US populations<sup>41</sup> and for the country's largest cities.<sup>42</sup> A special discussion of racial disparities is presented below in section **d**.

Arkansas infants whose mothers had at least one medical complication during the prenatal period had an infant mortality rate of 11.7. Figure 11 shows that these births are fairly common. Classically, the medical illnesses of anemia, urinary tract infections, hypertension, and diabetes; and pregnancy issues like pre-eclampsia, fetal growth restriction, and premature rupture of the membranes are effectively addressed by regionalized consultation and referral. Note that complications of labor and delivery occurred in 53.0 percent of all deaths, and non-marital births occurred in 51.7 percent of all deaths. Preterm birth figured in 45.2 percent of all deaths, explaining many of the labor and delivery complications. These data illustrate that there is no single answer to the problem of preterm birth which leads so often to infant death.

#### c. A special discussion on preterm birth

Arkansas infants experiencing preterm birth deserve special discussion. Figure 14 shows that the percentages of births before 37 weeks have trended upward since 2000 and before 32 weeks had increased until 2004. Figure 15 shows that the most common week of delivery has shifted from 40 weeks (the physiologically normal or "term" gestation) to 39 weeks. Figure 16 shows the degree to which births at gestational ages of 40 and 41 weeks have declined. Figure 17 shows that Arkansas infants born at 39 weeks have a higher infant mortality rate than those born at 40 weeks, a finding of concern. A brief review of the collection of gestational age data in Arkansas hospitals revealed variability of reporting, but did not completely explain the shift.

While a large proportion of preterm births result from spontaneous preterm labor, evidence exists that medical interventions to effect delivery are increasing. Figures 18 and 19 show that cesarean sections and inductions have markedly increased in Arkansas since 2000. Are physicians performing elective interventions too often or too early? The National Foundation March of Dimes is calling for further investigation of these issues. Practice Bulletins and Committee Opinions of the American College of Obstetrics Gynecology list multiple medical indications to effect delivery. They include early delivery to protect the mother and the fetus. Ananth, *et al*, analyzed Missouri's birth certificate data for the presence of medical conditions necessitating medical intervention for preterm birth. They concluded that preeclampsia, fetal distress, small-for-gestational-age and placental abruption were among the most common indications for medically-indicated preterm deliveries, and were implicated in over half of such births. Offspring of many mother-infant pairs who face these urgent medical

#### Attachment D (p.7)

complications may have a high risk for fetal as well as neonatal death. The fetus may do better after medically indicated delivery, even in the face of high infant death rates associated with preterm birth. For this reason, some studies have used perinatal (fetal and neonatal) death rates for analysis. KS Joseph discusses a new epidemiologic framework to identify fetuses at risk and the optimum gestational week for their delivery. 46 Joseph's framework, exemplified in Figure 20, represents an additional approach to guide obstetricians in identifying conditions of risk and recommending to patients the nature and timing of medical interventions. In any case the wishes, rights and bodily integrity of the pregnant woman must be respected, even in situations where the physician's medical assessment would predict poor outcomes for the infant. 47 Apart from inductions and cesarean sections for clear medical indication, concerns are rising related to elective procedures. Fisch, et al, showed that a quality improvement approach and careful adherence to ACOG guidelines reduced the overall induction rate at their institution, particularly for interventions before 39 weeks gestation. <sup>48</sup> The percent of cesarean sections to patients with first pregnancies also declined significantly.

It is well-known that African American births contribute disproportionately to preterm births. Erenthal, *et al*, looked at the contribution of medical co-morbidities (diabetes, smoking, hypertension, underweight), controlling for these high risk conditions in the comparison of black and white premature births. <sup>49</sup> They concluded that "though there is a greater burden of health risk among black women, this did not account for their higher rates of prematurity." CJR Hogue, *et al*, also noted that most of the excess risk for preterm delivery among African American births remained unexplained. They recommended that future research explore contextual and social conditions that might be altered to reduce the African American rates. <sup>50</sup> These issues are discussed as part of the disparities issues in section *d*.

#### d. A special discussion on racial disparities in infant mortality

Although the discussion of disparities in infant mortality is appropriate for many factors other than race, the pervasiveness and strength of many associations to black race is highly evident in the literature. Maternal stress is frequently mentioned as a risk factor for spontaneous preterm birth. Copper R, *et al*, in an NIH-funded prospective study, assessed trait anxiety, self-esteem, mastery, depression, and stress using a previously validated scale, for their associations to preterm birth, low birth weight, and intrauterine growth retardation (IUGR). Black race, fewer years of education, and high stress were statistically associated with spontaneous preterm birth. For low birth weight, black race, maternal age and low education showed significant associations. For IUGR, black race, tobacco use, and single head of household showed significant associations. Black race and stress held when many other psychological measures in the validated scale were controlled for in the regressions. Alexander G, *et al*, using US data, and taking both birth weight and gestational age into consideration, showed that during the period 1995-2000, the IMR for African Americans was 2.32 times greater than that for whites, higher

#### Attachment D (p.8)

than the same ratio for the period 1985-1988. Strikingly, the survival advantage for AA low birth weight infants, so commonly seen in past decades, showed a decrease, adding to the disparity.<sup>52</sup>

Many other studies have raised and begun to explore the issue of racism as it contributes to maternal stress, and subsequently preterm birth. Hausmann, et al, dealt with the issue of perceived discrimination as reflected in Behavioral Risk Factor Surveillance System (BRFSS) data. In particular, they studied the perception of racism as experienced in health care settings by whites, Hispanics and African Americans. They found that perceived racial discrimination in health care is much more prevalent for African Americans than for other demographic groups, and associated the reported experience of discrimination with poorer health for both whites and African Americans.<sup>53</sup> Collins, et al, in a case control study of 104 African American women, inquired about lifetime exposure to interpersonal racism in 5 domains - at work, getting a job, at school, getting medical care, and getting service at a restaurant or store. They found that odds ratios for very low birth weight infants for maternal lifetime exposure to interpersonal racism in three or more domains were two to three times higher than for those not so exposed. These ratios were statistically significant. <sup>54</sup>Rich-Edwards, et al. described psychosocial stressors, the "weathering" hypothesis, and socio-economic position in addition to racism and neighborhood context. They attempted to link these factors to preterm labor pointing to elevated corticotrophin releasing hormone (CRH) levels under various stressful conditions, and differing CRH elevations among mothers They also pointed to other vascular and infectious pathways. of different races. Ultimately, they commented that these studies are limited in number and rigor, and leave many gaps in suspected causal pathways. 55

## V. What are some evidence based solutions to the infant mortality problem in Arkansas?

While biomedical research looks into patho-physiologic complexities, community based interventions that have statistical associations to lower infant death rates also appear in the medical literature. Among them are putative solutions currently in being tried and some as yet incompletely applied.

Solutions currently applied in Arkansas offer the opportunity to enhance their distribution and quality. Public health "core services," including family planning, basic prenatal care, WIC, high risk obstetrical and newborn care, newborn screening, and immunizations, are already available in widespread fashion throughout the state. These services are all supported by state general funds, Medicaid, and federal funding sources including Title X, Title V, CDC, and special project grants. Gaps in access to prenatal care may exist. Not all counties have an ADH supported prenatal clinic located in the county, and limited public and private prenatal care capacity in some counties also adds to the gaps. Additional special project funds could help fill these gaps. Buescher, *et al*, showed that

#### Attachment D (p.9)

"enhanced" care in maternity clinics through care coordination services<sup>31</sup> can further reduce low birth weight and infant mortality; and Bronstein, *et al*, showed that care coordination in family planning clinics can improve both patient outreach, and continuation in care.<sup>56</sup> *Public awareness* efforts to alert communities to unwanted effects of adolescent birth and lack of prenatal care have been carried out in Arkansas, but need constant renewal. Examples include the "Arkansas Time Bomb" (teen pregnancy prevention), "Healthier Babies" (early prenatal care), and "Back-to-Sleep" (SIDS prevention) campaigns.

Solutions tried in the past but discontinued despite evidence of effect or not tried at all offer other opportunities to reduce infant death through prevention. New community projects to enhance public awareness of healthy behaviors could address many important health issues. Sudden Infant Death Syndrome can be reduced if mothers and other care-givers will consistently lay their babies on their backs to sleep, and use appropriate bedding. Pregnancy Risk Assessment and Monitoring Survey (PRAMS) data reveal that only 58% of mothers in Arkansas observe this behavior, with lower proportions in the Mississippi River Delta. Neural Tube Defects can be reduced if all women would take daily folic acid supplements prior to getting pregnant. Since pregnancies are not always anticipated, a routine daily dose is needed throughout the woman's reproductive years. Behavioral Risk Factor Survey data for Arkansas in 2000 (the latest) showed that only 46% of women took folic acid supplements. 99

Several important studies point to the notion that preconception and inter-conception health counseling could lead to identification before pregnancy of the presence of chronic disease such as obesity, diabetes or high blood pressure, or risky behaviors such as smoking, which may be amenable to education and prompts for behavior change. Haas, studying women from the San Francisco Bay Area, showed that in nearly 40% of preterm births, their mothers had identifiable risk factors before that pregnancy. 60 Atrash and Korenbrot, mentioned above 27,28 have advocated for preconception and inter-conception health counseling, and Frey, et al, has recommended preconception care for men.<sup>61</sup> With respect to stress and racism, Benkert, et al, using qualitative techniques, studied African American experiences of lack of personal resources for health care and treatment by health care workers. 62 They identified many coping strategies used by these patients, some helpful and others not. They identified broad categories of "problem focused" or "emotion focused" responses. CP Jones presented a theoretical framework for understanding racism as "institutionalized," "personally mediated," and "internalized." 63 Knowledge of these concerns and reactions can help a clinician respond more caringly. Perhaps more importantly, approaching the dialogue about racism in problem-solving terms might do much to advance communication between racial and ethnic subgroups on this important issue. The notion of "culturally competent" services has been more widely discussed than applied, at least in Arkansas.

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Since access to health care in rural Arkansas is more difficult, opportunities for young women to receive good preconception and inter-conception health counseling are few. Enhancing their availability offers opportunities to improve life-style factors such as diet; exercise; avoidance of smoking, alcohol and drug use; and management of chronic diseases such as obesity, diabetes and hypertension, all *before* a pregnancy occurs. Future "promising practices" may explore the use of Benkert's material to lessen the experiences of discrimination for African Americans. Also, finding new sites in low income health care settings for ANGELs telemedicine consultations can link subspecialty care to mothers and newborns at high medical risk to further reduce death among our sickest and most vulnerable infants.

### VI. Is there a model for community based, mutually enhancing strategies to reduce infant death?

Because infant mortality has such a complex set of causes, it is very likely that no single approach will make measurable differences in a jurisdictional population. A set of interventions, coordinated and mutually supportive, is more likely to "move the needle" of the infant mortality rate for a community. In the Health Resources and Services Administration (HRSA) of the US DHHS, the Maternal Child Health Bureau's "Pyramid of MCH Services" offers an important guide not only for the use of MCH Block Grant dollars, but also a multi-layered approach to a community project. This Pyramid is depicted in Figure 21.

The base of the MCH Pyramid, called "infrastructure building," emphasizes needs assessment, planning, policy development, coordination and training, among other guides for communities. In Arkansas, these aspects of public health are already emphasized by the state's Hometown Health Improvement Coalitions, operating in all counties. It will be essential to find a community that is already interested in the problem of infant mortality and ready to make some community-wide commitments. The first step is to approach a Hometown Health Coalition to see if interest and readiness exist, then to *build the collaborative efforts* needed to initiate and sustain community action.

The next lowest layer of the MCH Pyramid, called "population based services," includes services that are extended to all people at particular moments in life; e.g., newborn screening, well child care, immunization, oral health care, and family planning; or to all people with a particular health need such as prenatal care or services for children with special health care needs. A community-based effort to *increase public awareness* of the value of and need for these services will be necessary to achieve a scope of activity that is community-wide using *key messages to achieve behavior change*.

The next layer of the MCH Pyramid, called "enabling services," includes transportation, translation, outreach, health education, family support services, health insurance

#### Attachment D (p.11)

coverage, and case management. An operational emphasis on neighborhood *outreach* and recruitment is necessary to find and link the individuals to preventive services that are especially suited to their life stage or health need. By targeting as many low income neighborhoods as possible, these enabling services also work toward a population-wide effect. This pyramid layer also includes an activity called "case management," sometimes implemented as "targeted case management" or "care coordination." Care coordination can be defined as a relationship between a care coordinator and a client that offers regular communication, an initial home visit, care planning, and continuing follow-up through a course of service such as family planning or prenatal care. Care coordination refers clients to any needed community health and social service. In theory, it not only strengthens the client's relationships to his or her clinical caregivers, but offers a relatively long-term personal relationship in which to provide health counseling regarding all the issues encompassed by "preconception" "interconception" health counseling. Family planning care coordination funded by Medicaid has been implemented in Alabama with better continuity of care. The Family Planning (Women's Health) Waiver in Arkansas has proven effective in delaying first and subsequent pregnancies, and achieving large cost savings through averting unwanted births. These services may afford communities opportunities to improve health and save money. The care coordination service can also provide opportunities for mentoring, found so successful in the Nurse Family Partnership initiated and rigorously evaluated by Dr. David Olds. 64,65 Prenatal care coordination has been associated with lower low birth weight rates and cost savings in North Carolina. If the care coordination service follows a young woman through a year or two of family planning, to and through an anticipated and desired pregnancy, then back to family planning, a durable pathway for health counseling could be created, within which many "key health messages" can be given at the client's most "teachable moment."

Finally, the top layer of the MCH Pyramid, called "direct health services," includes basic preventive services, which for infant health include family planning, prenatal care, WIC, well child care, immunizations and developmental screening. When quality and capacity for these services are adequate, community-based enhancements such as reminders and recalls for visits have proven effective in assuring their provision. In Arkansas, and except for prenatal care, every county makes these preventive services available, and organizational capacity to assure quality and continuous services already exists. ADH prenatal clinics are offered in Local Health Units in 51 of the 75 counties. and among the remaining 24 some have either an adequate number of private physicians or Community Health Centers supplying the care. ADH strives to assure that counties without one of its clinics have relatively good rates of early prenatal care. The top layer of the pyramid also contains sub-specialty services for high risk mothers and infants such as ANGELS. The solutions discussed in Section V above are chosen at least in part because they fit various levels of the MCH Pyramid. Implementing new efforts at several levels together could reinforce each other in reducing infant death.

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#### VII. How is progress to be evaluated in Arkansas?

Progress in each one of these areas should be carefully evaluated. Implementation of new public health services in these times of funding scarcity requires proof of health benefit and cost savings. First, with each intervention the community's actions should be assessed for changes in service to patients, and in publicity, education and training efforts. Next, the changes should be assessed for intermediate impacts such as behavior change, increased use of basic and preventive services, or referral to and use of special consultation and hospitalization at facilities with the appropriate level of care. Then, these interventions need to be assessed with respect to their impacts on preterm births, low-weight births and infant deaths. These evaluations are rigorous and require the use of appropriate funding, in the hands of professional evaluators.

Infant death reviews are a useful way to identify examples of existing problems in health systems. Review of medical and other individual records related to an infant's death is advocated by CDC and HRSA, and promulgated as Fetal and Infant Mortality Reviews. Koontz, et al of the MCH Bureau described programmatic development of infant death reviews in many community based projects in the US.66 Misra et al, conducted a national evaluation of 74 community based projects that performed infant mortality reviews.<sup>67</sup> They described these reviews as "useful," but also saw the strenuous nature and expense of performing them, ultimately recommending that the effort be combined with maternal mortality and child death reviews. A particularly well-done infant death review was conducted in Minneapolis-St Paul, highlighting teen pregnancy, late prenatal care (barriers), violence (suicide and homicide), substance use and abuse (tobacco, alcohol, drugs), and unwanted or mistimed pregnancies.<sup>68</sup> Such a review was done in Arkansas between 1997 and 2000, revealing much the same concerns, but especially emphasizing the lack of community availability of grief counseling services. Disparities in mortality and preterm births might be further illuminated by a renewed effort at death reviews.

#### References

- 1. Rowley D, *et al*, Neonatal and post neonatal mortality, *Birth Outcomes*, From Data to Action, CDC's Public Health Surveillance for Women, Infants and Children, accessed on the Internet 7/13/09 at <a href="https://www.cdc.gov">www.cdc.gov</a>
- 2. Health Statistics Branch, Center for Health Practice, Arkansas Dept of Health
- 3. National Vital Statistics Reports Vol. 57, No. 2, July 2006, NCHS, CDC, p 5
- 4. Martin J, et al, Annual Summary of Vital Statistics 2003, Pediatrics Vol. 115 No.3 March 2005, 619-634
- Spencer N, Effect of income inequality and macro-level social policy on infant mortality and low birth weight in developed countries, *Child care health and development*, Vol. 30 No. 6, 699-709 Blackwell Publishing Ltd. 2004, Internet version accessed 7-13-09
- 6. Lu MC, et al, Racial and ethnic disparities in Birth Outcomes: a life-course perspective, Maternal and Child Health Journal, March 2003, Vol. 7, No. 1, 13-30

#### Attachment D (p.13)

- 7. Shi M, et al, Review on Genetic Variants and Maternal Smoking, Birth Defects Research (Part C), 2006, 84:16-29
- 8. Hunt CE, Gene-environment interactions: implications for sudden unexpected death in infancy, *Archives of Diseases of Children*, 2005, 90:48-53
- 9. Moore ML, et al, Etiology of low-birth weight birth: a population-based study, Preventive Medicine, 1994, Vol. 23, 793-799
- 10. Lopez Bernal A, Overview of preterm labour: mechanisms and management, *BMC Pregnancy and Childbirth*, 2007, Vol. 7 (Suppl I), S2, 1-7
- 11. Wagner S, et al, Hypertensive Pregnancy Disorders: Current Concepts, Journal of Clinical Hypertension, Vol. 9 No.7, July 2007, 560-566
- 12. Granger J, et al, Patho-physiology of hypertension during pre-eclampsia linking placental ischemia with endothelial dysfunction, *Hypertension*, 2001, Vol. 38, 718-22
- 13. Yeo S, *et al*, A comparison of walking versus stretching exercises to reduce the incidence of pre-eclampsia: a randomized clinical trial, *Hypertension in Pregnancy*, 2008, Vol. 27, 113-130
- 14. Perinatal Antiplatelet Review of International Studies (PARIS) Collaboration Steering Group, Antiplatelet agents for prevention of pre-eclampsia and its consequences, *BMC Pregnancy and Childbirth*, 2005, Vol. 5: No. 7, accessed on the Internet, 8/29/08.
- 15. Spinnato J, et al, Antioxidant Therapy to prevent pre-eclampsia, Obstetrics and Gynecology Vol. 110, No. 6, December 2007, 1311-1318
- 16. Edwards C, Maternal stress and pregnancy outcomes in a prenatal clinic population, *Journal of Nutrition*, Suppl., 1006S, accessed on the Internet 8/31/08
- 17. Ruiz R, et al, The interrelationship of maternal stress, endocrine factors and inflammation on gestational length, CME Review Article, Obstetrical and Gynecological Survey, 2003, Vol. 58, No. 6, 415-428
- 18. Lipsky S, Impact of police-reported intimate partner violence during pregnancy on birth outcomes, *Obstetrics & Gynecology*, September 2003, Vol. 102, No. 3, 557-564
- 19. Leach C, et al, Epidemiology of SIDS and explained sudden infant deaths, Pediatrics, October 1999, Vol. 104, e43, 1-10, accessed on the Internet 9/03/08
- Fiscella K, Racial disparity in infant and maternal mortality: confluence of infection and micro-vascular dysfunction, *Maternal and Child Health Journal*, June 2004, Vol. 8, No. 2, 45-54
- 21. Aqino R, et al, Impact of the family health program on infant mortality in Brazilian municipalities, *American Journal of Public Health*, January 2009, Vol. 99, No. 1, 87-93
- 22. Cifuentes J, et al, Mortality in low birth weight infants according to level of neonatal care at hospital of birth, *Pediatrics*, May 2002, Vol. 109, No. 5, 745-751
- 23. Yu V, et al, Development of regionalized perinatal care, Seminars in Perinatology, 2004, Vol. 9, 89-97
- 24. Lowery C, et al, ANGELS paradigm for distant obstetrical care delivery, American Journal of Obstetrics and Gynecology, June 2007, Vol. 196, No. 6, 534 e1-9, accessed on the Internet 7/01/09
- 25. Bailey L, *et al*, Folic acid supplements and fortification affect the risk for neural tube defects, vascular disease and cancer, *Journal of Nutrition*, Suppl 1961S-1968S, accessed on the Internet 8/10/2008
- 26. Behavioral Risk Factor Survey, Health Statistics Branch, Center for Health Practice, Arkansas Department of Health
- 27. Atrash H, *et al*, Preconception care for improving perinatal outcomes: a time to act, *Maternal Child Health Journal*, June 2006, Vol. 10, S3-11
- 28. Korenbrot C, et al, Preconception care: a systematic review, *Maternal Child Health Journal*, Vol. 6 No. 2, June 2002, 75-88
- 29. Ragni, *et al*, Preventing high order multiple pregnancies during controlled ovarian hyper-stimulation... *Fertility and Sterility*, Vol. 85, No. 3, March 2006, 619-624

#### Attachment D (p.14)

- 30. Vintzileos A, et al, The impact of prenatal care on neonatal deaths in the presence and absence of antenatal high-risk conditions, American Journal of Obstetrics & Gynecology, May 2002, Vol. 186 No. 5, 1011-1016
- 31. Buescher P, *et al*, An evaluation of the impact of maternity care coordination on Medicaid birth outcomes in North Carolina, *American Journal of Public Health*, December, 1991, Vol. 81, No. 12, 1625-1629
- 32. Windsor R, *et al*, Effectiveness of smoking cessation methods for smokers in public health maternity clinics, *American Journal of Public Health*, December 1985, Vol. 75, No. 12, 1389-1392
- 33. Lightwood J, *et al*, Short term health and economic benefits of smoking cessation: low birth weight, *Pediatrics*, 1999, Vol. 104, 1312-1320
- 34. Youth Risk Behavior Survey, Office of Coordinated School Health, Arkansas Department of Education, 2007
- 35. Weed S, Phase V Final Report, Evaluation of Title V abstinence education programs (internal document ADH)
- 36. Thomas M, Abstinence-based programs for prevention of adolescent pregnancies, a review, *Journal of Adolescent Health*, 2000, Vol. 26, No. 1, 5-17
- 37. Donovan E, *et al*, Intensive home visiting is associated with decreased risk of infant death, *Pediatrics*, June 2007, Vol. 119, No. 6, 1145-1151
- 38. Cowden A, et al, Adolescent pregnancy, infant mortality and source of payment for birth: Alabama residential live births, 1991-1994, *Journal of Adolescent Health*, 2001, Vol. 29, 37-45
- 39. Alan Guttmacher Institute, Issues in Brief, 2002 Series, No. 2
- 40. Fay W. Boozman College of Public Health, *Evaluation of the Women's Health Waiver*, Little Rock, AR October 31, 2006 (internal document)
- 41. Singh G, *et al*, Persistent socioeconomic disparities in infant, neonatal, and post neonatal mortality rates, US 1969-2001, *Pediatrics*, April 2007, Vol. 119, No. 4, e928-e939, accessed by the Internet on 7/16/09
- 42. Haynatzka V, *et al*, Racial and ethnic disparities in infant mortality rates 60 largest US Cities, 1995-1998, *Morbidity and Mortality Weekly Report*, April 19, 2002, Vol 51, No. 15, 329-332
- 43. C-Sections, a critical factor in preterm birth increase, March of Dimes, White Plains, NY, 7-11-2008, <a href="https://www.marchofdimes.com/aboutus/22684-30185.asp">www.marchofdimes.com/aboutus/22684-30185.asp</a>, accessed on the Internet 8/20/08
- 44. The American College of Obstetricians and Gynecologists, *Compendium of Selected Publications*, 2006, ACOG Practice Bulletin No. 10, November 1999, 562-571
- 45. Ananth C, Maternal-fetal conditions necessitating a medical intervention resulting in preterm birth, *Obstetrics & Gynecology*, 2006, Vol. 195, 1557-63
- 46. Joseph KS, Theory of obstetrics: an epidemiological framework for justifying medically indicated early delivery, *BMC Pregnancy and Childbirth*, 2007, Vol. 7, No. 4 (Internet version) accessed 8-24-08
- 47. The American College of Obstetricians and Gynecologists, Committee on Ethics, ACOG Committee Opinion, No. 321, November 2005, *Compendium of Selected Publications* 2006, 111-121
- 48. Fisch J, et al, Labor induction process improvement, Obstetrics and Gynecology, Vol. 113, No. 4, April 2009, 797-803
- 49. Erenthal D, *et al*, A population study of the contribution of medical co-morbidity to the risk of prematurity in blacks, *American Journal of Obstetrics and Gynecology*, October, 2007 Society for Maternal Fetal Medicine Meeting Papers, 409.e1 409.e6, accessed on the Internet 7/15/09

#### Attachment D (p.15)

- 50. Hogue CJR, et al, Preterm birth in the African American Community, Seminars in Perinatology, August 1995, Vol. 19, No. 4, 255-262
- 51. Copper R, The preterm prediction study: maternal stress is associated with spontaneous preterm birth at less than thirty five weeks' gestation, *American Journal of Obstetrics and Gynecology*, Vol. 175, No. 5, 1286-1292
- 52. Alexander G, et al, The increasing racial disparity in infant mortality rates: composition and contributors to recent US trends, American Journal of Obstetrics and Gynecology, January 2008, 51.e1-51.e9, accessed on the Internet 7/26/09
- 53. Hausmann L, et al, Perceived discrimination in health care and health status in a racially diverse sample, *Medical Care*, September 2008, Vol. 46, No. 9, 905-914
- 54. Collins J, *et al*, Very low birth weight in African American infants: the role of maternal exposure to interpersonal racial discrimination, *American Journal of Public Health*, December 2004, Vol. 94, No. 12, 2132 2138
- 55. Rich-Edwards J, et al, Psychosocial stress and neuro-endocrine mechanisms in preterm delivery, American Journal of Obstetrics and Gynecology, 2005, Vol. 192, Suppl, S30-S35
- 56. Bronstein J, et al, Extending Medicaid coverage for family planning services: Alabama's first four years, *Public Health Reports*, March-April 2007, Vol. 122, 190-197
- 57. Wennergren G, et al, The decline in the incidence of SIDS in Scandinavia, and its relation to risk-intervention campaigns, *Acta Pediatrica*, 1997, Vol. 86, 963-98
- 58. Pregnancy Risk Assessment and Monitoring Survey, Health Statistics Branch, Center for Health Practice, Arkansas Department of Health
- 59. Behavioral Risk Factor Survey, Health Statistics Branch, Center for Health Practice, Arkansas Department of Health
- 60. Haas JS, et al, Prepregnancy health status and risk of preterm delivery, Archives of Pediatric and Adolescent Medicine, January 2005, Vol. 159, 58-63
- 61. Frey K, et al, The clinical content of preconception care: preconception care for men, American Journal of Obstetrics and Gynecology, December 2008, Suppl, S389-S395
- 62. Benkert R, et al, African American women's coping with health care prejudice, Western Journal of Nursing Research, 2005, Vol. 27, No. 7, 863-889
- 63. Jones CP, Levels of Racism: A theoretical framework and a gardener's tale, American Journal of Public Health, August, 2000, Vol. 90, No. 8, 1212-1215
- 64. Olds D, et al, Long term effects of nurse home visitation on children's criminal behavior and antisocial behavior, *Journal of the American Medical Association*, October 14, 1998, Vol. 280, No. 14, 1238-1244
- 65. Olds D, *et al*, Effects of nurse home-visiting on maternal life course and child development: age 6 follow-up results of a randomized trial, *Pediatrics*, December 2004, Vol. 114, No. 6, 1550-1559
- 66. Koontz A, et al, The evolution of fetal and infant mortality review as a public health strategy, *Maternal and Child Health Journal*, Vol. 8, No. 4, December, 2004, 195-203
- 67. Misra D, et al, The nationwide evaluation of fetal and infant mortality review (FIMR) programs ... Maternal and Child Health Journal, 2004, Vol. 8, No. 4, 217-229
- 68. Fogarty C, et al, Project LID (lower infant deaths) lessons learned from a local infant mortality review project, *Minnesota Medicine*, August 2000, Vol. 83, 43-49

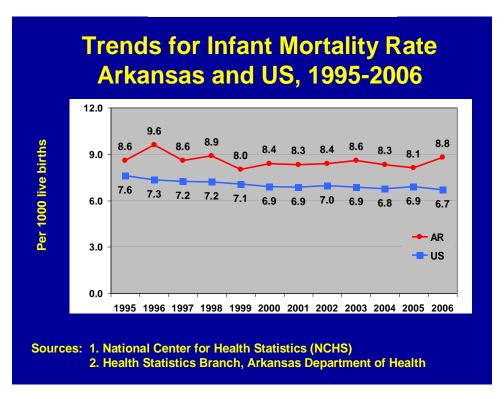


Figure 1

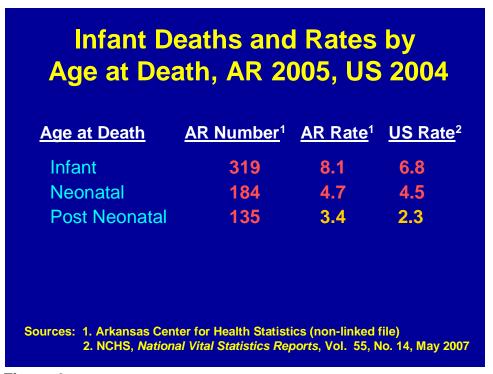


Figure 2

# Neonatal Deaths Top Five Causes, AR 2006

•	Congenital malformations	58
•	Short gestation and low birth weight	37
•	Placenta, cord and membranes	15
•	Respiratory distress	12
•	Maternal complications of pregnancy	11

Source: Arkansas Center for Health Statistics (not linked file)

#### Figure 3

# Post-neonatal Deaths Top Five Causes, AR 2006

<ul> <li>Sudden infant death syndrome</li> </ul>	44
<ul> <li>Congenital malformations</li> </ul>	20
<ul> <li>Unintentional injuries</li> </ul>	12
<ul> <li>Diseases of the circulatory system</li> </ul>	8
<ul> <li>Chronic respiratory disease</li> </ul>	7

Source: Arkansas Center for Health Statistics (not linked file)

Figure 4

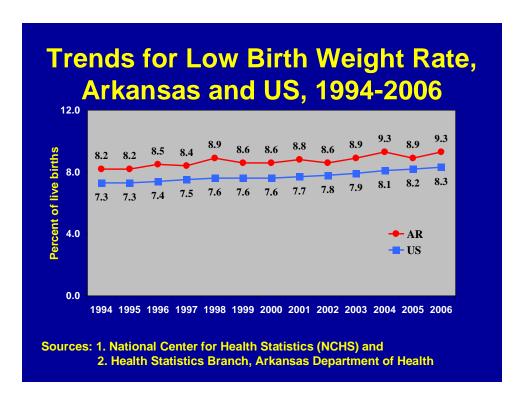


Figure 5

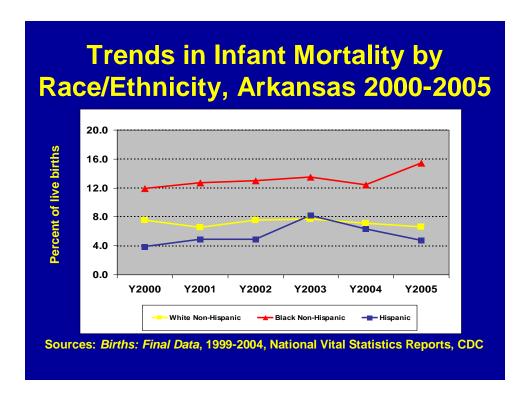


Figure 6

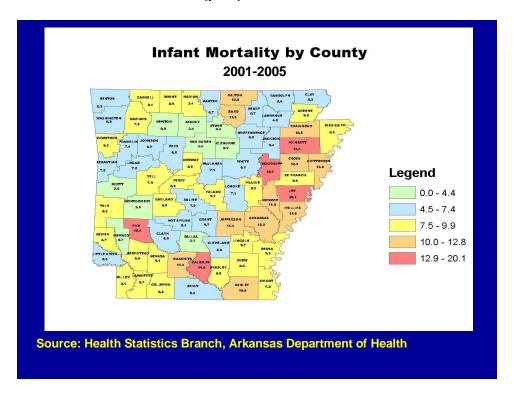


Figure 7

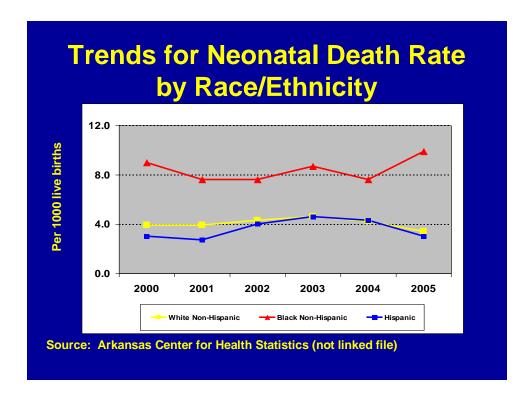


Figure 8

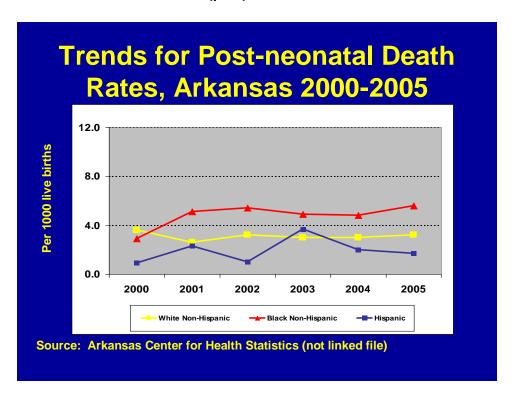


Figure 9

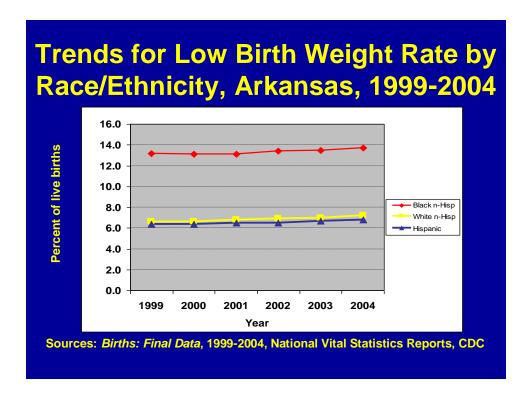


Figure 10

#### Attachment D (p.21)

Figure 11. Infant Mortality Rates by Indicator, AR 2001-2005 Combined								
	Number of	Percent of	Infant	Percent	Infant	Chi		
Indicator	Births	Births	Deaths	of Deaths	Death Rate	Square		
Total	189,676	100.0	1,554	100.0	8.2			
<1500 grams	2,998	1.6	569	36.6	189.8	<.0001		
1500-2499 grams	13,764	7.3	255	16.4	18.5			
2500+ grams	172,635	91.0	587	37.8	3.4			
<32 weeks	4,371	2.3	702	45.2	160.6	<.0001		
32-36 weeks	22,818	12.0	252	16.2	11.0			
37-40 weeks	131,704	69.4	498	32.0	3.8			
41+ weeks	30,783	16.2	102	6.6	3.3			
Defect present	2,357	1.2	218	14.0	92.5	<.0001		
No defect present	187,141	98.7	1,309	84.2	7.0			
Triplets +	193	0.1	15	1.0	77.7	<.0001		
Twins	5,456	2.9	193	12.4	35.4			
Singleton	184,005	97.0	1,346	86.6	7.3			
No prenatal care	3,146	1.7	101	6.5	32.1	<.0001		
Second trimester care	27,110	14.3	250	16.1	9.2			
Third trimester care	5,379	2.8	47	3.0	8.7			
First trimester care	148,020	78.0	1,066	68.6	7.2			
Smoked > 1 pack/day	1,122	0.6	22	1.4	19.6	<.0001		
Smoked some - < 1 pack/day	29,693	15.7	313	20.1	10.5			
Did not smoke	156,210	82.4	1,190	76.6	7.6			
<15 years	655	0.3	11	0.7	16.8	<.0001		
15-19 years	28,507	15.0	318	20.5	11.2			
20-34 years	146,409	77.2	1,105	71.1	7.5			
35-39 years	11,669	6.2	93	6.0	8.0			
40+ years	2,419	1.3	27	1.7	11.2			
Complication of labor/delivery	56,030	29.5	823	53.0	14.7	<.0001		
No complication of labor/delivery	133,482	70.4	720	46.3	5.4			
Black, non-Hispanic	36,601	19.3	491	31.6	13.4	<.0001		
White, non-Hispanic	131,600	69.4	932	60.0	7.1			
Hispanic	16,483	8.7	96	6.2	5.8			
Other races/ethnicity	2,010	1.1	10	0.6	5.0			
Medical risk factor	44,235	23.3	516	33.2	11.7	<.0001		
No medical risk factor	145,265	76.6	1,029	66.2	7.1	-1.0001		
Unmarried	72,250	38.1	804	51.7	11.1	<.0001		
Married	117,091	61.7	742	47.7	6.3			
<9th grade	8,952	4.7	75	4.8	8.4	<.0001		
9th-11th grade	32,613	17.2	365	23.5	11.2	410001		
12th grade +	146,696	77.3	1,086	69.9	7.4			
ızııı yıau <del>c +</del>	140,096	11.3	טסט, ו	69.9	1.4			

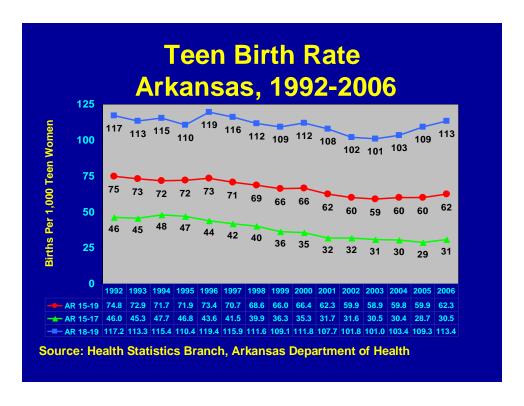


Figure 13

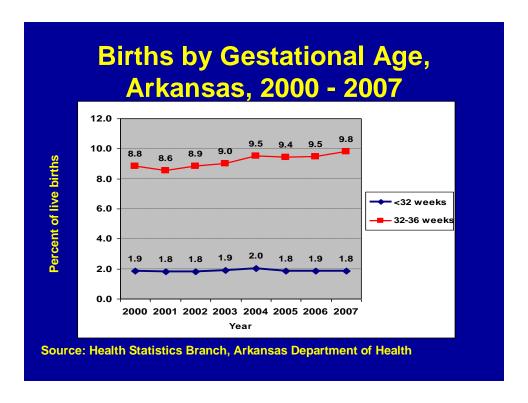


Figure 14

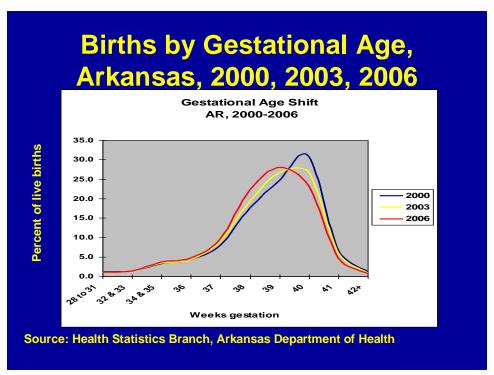


Figure 15

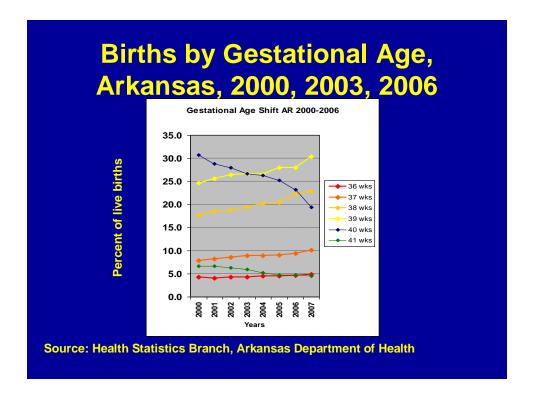


Figure 16



Figure 17

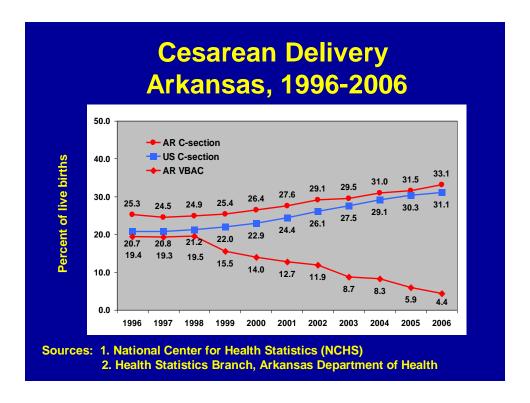


Figure 18

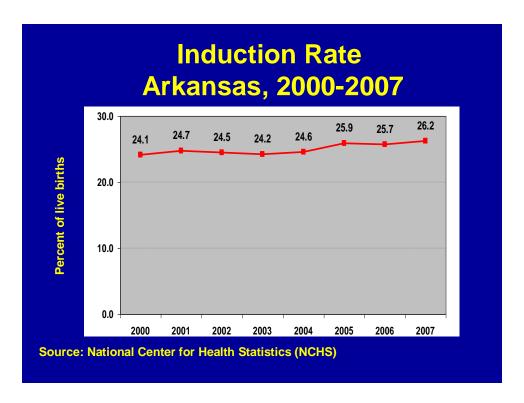


Figure 19

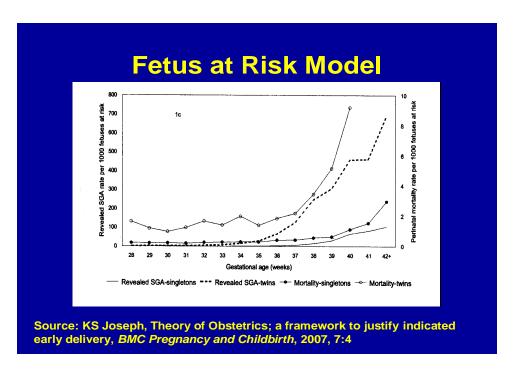


Figure 20

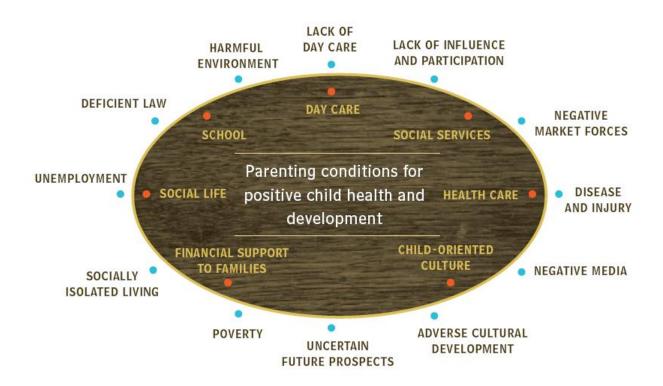
## MCH Pyramid of Health Services



Figure 21

#### Attachment E

## Natural Wonders Ecologic Model for Determinants of Child Health And Development



Source: Natural Wonders: The State of Children's Health in Arkansas, 2008

#### Attachment F. Summary of Natural Wonders Assessment (p.1)

#### **Natural Wonders Survey**

- -Random digit dialing of 2,005 Arkansans in late 2007; about 400 in each region of state
- -Developed by Arkansas Advocates for Children and Families, Clinton School of Public Service
- -Conducted by Opinion Research Associates, Inc

Open ended question: "When it comes to children's health and well-being today in Arkansas, what do you consider the two biggest problems?"

- -35% responded with something health insurance-related (lack of, cost of, poor coverage, etc.); this despite recent data suggesting <10% of AR children are uninsured
- -19% said lack of health care (access, availability, distance, too few providers) was #1 or #2
- -15% mentioned "parents" as #1 or #2 (bad parents, need for parenting skills); of these respondents, 85% were over the age of 45

Community ratings: 65% rated pre-K programs in their community as average or higher; 58% rated community child care as average or higher; 73% said their community had average or higher number of doctors available to care for children, and 69% said the availability of dental care was average or higher in their community. Regionally, fewer respondents in central Arkansas (13%) felt the number of doctors caring for children was below average compared to other areas (Southeast, 31%; Southwest, 27%; Northwest, 28%; Northeast, 23%). On community provision of a safe environment, respondents in Southeast AR said their communities were below average or poor more often (21%) than the state as a whole (11%); African Americans ranked their communities as above average to excellent in safety less often (39%) than did white respondents (56%).

Ratings of specific problems: Overweight children were considered a serious to moderate problem by 77% of respondents. One-fourth of those with children <18 yrs expressed concern that their children were overweight. Two-thirds of respondents felt that smoking and drugalcohol abuse were serious to moderate problems. 64% felt that teen pregnancy was a serious to moderate problem in their community.

General perceptions of health: 65% of respondents strongly or somewhat agreed that children from low-income families have less access to healthcare. However, only 37% agreed that minority children have less access. Respondents differed sharply by race on the latter question: 72% of African American (AA) respondents agreed with the statement that minority children have less access to healthcare, while only 32% of white respondents did.

Innovations for improving health: 79% strongly or somewhat agreed that primary care services should be provided in schools. 75% strongly or somewhat agreed that they favored stricter laws around teenage driving.

#### Attachment F. Summary of Natural Wonders Assessment (p.2)

#### Natural Wonders: Arkansas Study Circles Project

Lead: AR School Board Association in partnership with AR Advocates for Children and Families Time frame: February and March, 2008

- -Five communities, from each geographic area of the state: Mena (SW), Jacksonville (C), Hamburg (SE), Paragould (NE), and several communities representing NW Arkansas (NWA)
- -Study circles consisting of 8-12 members each; sessions led by impartial facilitators and recorders
- -Some communities broke into 2-4 circles
- -Each circle met for 3 or 4 sessions, with "theme" for each session
- Session 1: "How does our community contribute to the health and well-being of children and their families/"
- Session 2: "What challenges do children in our community face?"
- Session 3: "How can we make our community a healthier place for children and their families?"
- Session 4: "What can we do?"

Participant demographics: 4 groups reported these; of that total, 65.4% Caucasian, 7.4% African American, 19.8% Hispanic, and 7.4% other or mixed. Median income and education of participants was higher than the average Arkansan; 36% had income >\$50,000, and only 18.5% had income <\$25,000. 61.7% of participants had college degrees (compared with 16.7% of Arkansans in 2000); only 5% of participants did not have HS diplomas.

Study circles asked to create a community report card, and assign grades for each of the following areas: education, employment, healthcare, leadership, social services, media, criminal justice, and public works.

Education: avg. grade for all study circles: "C." 4 out of 5 regions were concerned about sex education; most wanted more sex education in schools, but Mena's Hispanic circle wanted to stress abstinence education. One group wanted to make child development and parenting a required course in high school. Other subjects desired to be added to school curricula include diet, exercise, and personal hygiene.

Employment: avg. grade among study circles: "D." Themes: poverty, lack of good jobs, rich-poor gaps, job skills training

Health Care: avg. grade among circles: "D." Every group stated they felt all children needed health insurance. Suggestions: expand ARKids, including coverage for college-age students; provide incentives to employers; re-evaluate the insurance reimbursement system. Four out of five groups stated they had provider shortages; lack of facilities also. Lack of access reported by 4/5: cost of health care, inconvenient office hours, lack of public transportation to get to provider. Lack of dental services. Suggestion: mobile dental unit.

#### Attachment F. Summary of Natural Wonders Assessment (p.3)

Study Circles (cont.)

Specific health issues identified: Poor nutrition, poor diet, substance abuse, lack of exercise, lack of prenatal care, lack of mental health care for children, motor vehicle crashes. Most popular suggestion to address problems: school-based health services (medical and dental).

Social Services: avg. grade among circles: "D." Program abuse, need for accountability. Assurance that those taking advantage of services really need them. At the same time, the need to educate families about resources available to them was commonly brought out. Suggestions: resource guide; resource center with coordinator; hotline.

Family and Community: All groups identified the breakdown of the traditional family structure as a problem in their community; lack of parental responsibility and accountability. 4/5 mentioned lack of parenting skills. Suggestions for goal to strengthen families and communities: get local churches to collaborate with organizations to create after-school programs, with transportation provided. Also, parenting classes offered in the community. One community suggested parenting and child development course taught in HS.

#### **Natural Wonders: AR AAP Provider Focus Groups**

Lead: AR Chapter, AAP

Time frame: winter and early spring, 2008

Facilitator: Ray Scott, assisted by chapter president and executive director

Locations: Pine Bluff, El Dorado, Helena, Fort Smith, Batesville

Participants: pediatricians, mental health providers, AHEC representatives, school nurses,

pharmacists, dentists, DDS reps, ADH reps

Issues identified: common themes included lack of parental involvement, and lack of education and financial resources. Parents were implicated in such issues as childhood obesity, lack of preventive medical and dental care, teen pregnancy and rise of STD rates. Access barriers identified included navigating the Medicaid and other third party payer systems, lack of availability of specialists, and increased patient loads per provider. Language and cultural barriers were also routinely discussed, including lack of providers from the minority community (Black and Hispanic).

Other common issues identified: poor prenatal care, or lack of access to prenatal care; substance abuse (meth, alcohol); mental health services for children

Other access issues: no more Medicaid slots available among private practice PCP's; transportation/gas prices; lack of dental providers; lack of after-hours services

#### Attachment F. Summary of Natural Wonders Assessment (p.4)

AR AAP Focus Groups (cont.)

Other insurance/reimbursement issues: insufficient reimbursement for preventive services such as immunizations; high deductibles/copayments; no reimbursement for education-based training and patient counseling; lack of reimbursement for certain mental health services; increasing red tape to obtain reimbursement

Other cultural differences/disparities issues: parental illiteracy; limited access to medical interpreters; need to recruit more minorities into the healthcare field

Emerging issues: recruitment of physicians to underserved areas; pediatric obesity, hypertension and type 2 diabetes; access to dental services; prenatal substance abuse (meth); costs of electronic health records; costs of nutritious foods vs. processed foods

Improving access: 3 of 5 groups (Pine Bluff, El Dorado, Helena) suggested school-based health services (to include dental and mental health); maternal-infant program; Medicaid transportation services

Source: <u>Natural Wonders: The State of Children's Health in Arkansas</u>, report prepared by the Arkansas Center for Health Improvement, 2008.

#### Attachment I. Minutes of MCH PT Meeting (p.1)

### MCH Block Grant/Needs Assessment Planning Team 12-16-08

**Timeline: Counting Backwards** 

July 15, 2010 Submit application with needs assessment incorporated

January, 2010: Start Writing Application

August, 2009: Complete Needs Assessment (Final Stakeholders Meeting(s)?)

May-Jun, 2009: Staff review of priorities with attention to causation and evidence based interventions

March 2009 First Stakeholders Meeting(s)

January 2009: Start Process

#### **Preparation for Stakeholders Meeting**

- 1. Performance Measure Review
  - a. All 58 Measures
  - b. Improving
  - c. Worsening
  - d. Same
- 2. Examining Capacity
  - a. Data Capacity
  - b. Service Capacity

#### Preliminary list of potential stakeholders

- 1. Internal
  - a. Branch Level: CSHCN, Nancy Holder; CAH, Health Connections, Women's Health
  - b. Center Level: Chronic Disease, Life Stages, Oral Health, Tobacco, WIC
  - c. Agency Level: Local Public Health (HHI, Nursing, Regions); Health Protection (HIV/STD, Injury Prevention, TBI, Traumatic Injury); Health Practice (Lab and newborn screening); Minority Health and Social Marketing
- 2. External Traditional
  - a. UAMS
    - i. ANGELS
    - ii. COPH
    - iii. OBGYN PEDS
    - iv. Partner's for Inclusive Communities

#### Attachment I. Minutes of MCH PT Meeting (p.2)

- b. MOD
- c. ACH
- d. CHCs
- e. Hospitals
- f. Private Doctors
- g. DHS
  - i. DDDS (SHCN)
  - ii. DCCECE (AECCS)
  - iii. DBH (SOC)
  - iv. DMS (Medicaid)
- h. DOE
  - i. Special Programs
  - ii. Special Nutrition
  - iii. Physical Education
- 3. Other Traditional External Partners

#### **AR HRSA PARTNERS**

- 1. CHC's
- 2. HIV/STD
- 3. ORAL HEALTH
- 4. RURAL HEALTH
- 5. AHECS

#### **DATA PARTNERS**

- 1. UALR Institute for Economic Advancement.
- 2. ACHI
- 3. ADE

#### **ADVOCACY GROUPS**

- 1. AACF
- 2. MOD
- 4. New Partnerships
  - a. Natural Wonders Partnership
  - b. Early Childhood Partnership Council (Martha)
  - c. Infant Mortality Advisory Committee (the one we are now forming)
  - d. HRSA Women's Health Partnership
  - e. System of Care for Child Mental Health
  - f. What do we need to do about CSHCN?
  - g. Parents

#### Attachment I. Minutes of MCH PT Meeting (p.3)

#### **Needs Assessment Priority**

#### **Comments:**

Priorities -

Must fit with current staffing program developments, and

Must fit with 18 National priorities

Must identify 5-10 state priorities

Must recognize that no new money is available in the BG, in fact less.

Must recognize that stakeholders' input will be taken by staff and incorporated programmatically as staff is able. Staff will do the causation analysis and define evidence-based interventions. For this reason, we may need to have a wrap-up meeting of the stakeholders with the express purpose of defining parallel activities of different partners, all to the purpose of collaborative efforts.

#### Why Stakeholders? -

- 1. Peer involvement can bring networking
- 2. Expertise is expanded
- 3. Views and perspectives are expanded
- 4. Involvement of "sister" programs can bring resources and help avoid duplication of effort

#### **Current Internal Priorities**

#### In Branch

WH: Bet/WH Symposium

Gov. Office?

Legislative Women's Caucus?

**Policy Issues** 

**Pre-conception Counseling** 

Family planning recruitment and care coordination

**Maternity Services** 

Needs by county

Midwives

Teen Birth

**Unplanned Pregnancy** 

#### CAH: Coordinated School Health

Abstinence

Metabolic Screening

**Infant Hearing** 

#### Attachment I. Minutes of MCH PT Meeting (p.4)

How do we assess capacity for child health system?

Data Capacity:

Improvements needed -

WIC program descriptors
Service Numbers by Title V, Medicaid, and other funding sources
Medicaid #'s Kids by SCHIP vs. Medicaid (or AR Kids A/B)
% of kids potentially eligible for Medicaid who are actually enrolled
(UALR) and (Medicaid)

 $\% < 18 \ \text{w/o}$  insurance} Breast Feeding 6 mos. PRAMS is inaccurate. SPIRIT? Lateness of vital records completeness

#### **Service Capacities**

Maternity capacity distribution
Emergency Trauma System
Early Childhood System
Developmental Screening for Children
Mental Health services for children
Oral health services for children

#### Attachment J (AR System of Care Law)

Stricken language would be deleted from and underlined language would be added to the law as it existed prior to this session of the General Assembly.

Act 1593 of the Regular Session

```
*MXR053* 03-26-2007 10:09 MXR053
```

```
1 State of Arkansas As Engrossed: H3/21/07 H3/26/07
2 86th General Assembly A\ Bill
3 Regular Session, 2007 HOUSE BILL 2358
5 By: Representatives E. Brown, Pennartz, D. Creekmore, Reep, Bond, Pate, Webb, J. Johnson, Powers,
6 Pierce, T. Baker, J. Roebuck, Cash, Hyde, Pickett, Stewart, Wagner, Cornwell, Reynolds, Rosenbaum,
7 Walters, Harrelson, Harris, T. Bradford, Chesterfield, Blount, J. Brown, Cooper, Rainey, Garner, S.
8 Prater, Wills, Gaskill, King, Everett, S. Dobbins, Maxwell, Allen, Cheatham, W. Lewellen, Shelby,
9 Lowery, Glidewell, R. Green, Hoyt, Patterson, Cook, Medley, George, Dunn, L. Evans, Jeffrey,
Sullivan,
10 Moore, Wood, Pyle, Hall, Davenport, D. Hutchinson, Woods, Burkes
11 By: Senators Salmon, R. Thompson, Madison, Trusty
13
14 For An Act To Be Entitled
15 AN ACT TO ESTABLISH THE PRINCIPLES OF A SYSTEM OF
16 CARE FOR BEHAVIORAL HEALTH CARE SERVICES FOR
17 CHILDREN AND YOUTH AS THE PUBLIC POLICY OF THE
18 STATE; FOR IMPROVING THE EFFECTIVENESS OF
19 BEHAVIORAL HEALTH AND RELATED SERVICES TO
20 CHILDREN, YOUTH AND THEIR FAMILIES; AND FOR OTHER
21 PURPOSES.
22
23
24 Subtitle
25 AN ACT TO ENSURE BETTER UTILIZATION AND
26 COORDINATION OF THE STATE'S BEHAVIORAL
27 HEALTH CARE RESOURCES DEVOTED TO SERVING
28 CHILDREN, YOUTH AND THEIR FAMILIES.
29
30
31 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:
33 SECTION 1. Arkansas Code Title 20, Chapter 47 is amended to add an
34 additional subchapter to read as follows:
35 20-47-601. Title.
As Engrossed: H3/21/07 H3/26/07 HB2358
2 03-26-2007 10:09 MXR053
1 This subchapter shall be known and may be cited as the "Arkansas System
```

2 of Care for Behavioral Health Care Services for Children and Youth Act.

6 improved system of behavioral health care for children and youth, especially

5 The purpose of this Act is to help facilitate the establishment of an

4 20-47-602. Purpose.

7 those with serious emotional disturbances.

#### Attachment J – cont. (p.2)

8

9 20-47-603. Findings.

- 10 The General Assembly finds:
- 11 (a) The system for providing behavioral health care services to
- 12 children, youth and their families should ensure that those services are
- 13 appropriate, cost-effective, and provided in the least restrictive settings.
- 14 (b) Behavioral health and other services identified in Arkansas Code §
- 15 20-47-502 (10) are provided to children and youth by various departments,
- 16 agencies, and providers at both the state and local level, often without
- 17 appropriate or effective collaboration.
- 18 (c) Providing effective services for children with the most severe
- 19 needs requires many areas of expertise and shared responsibility among the
- 20 aforementioned departments, agencies and providers.
- 21 (d) The system of behavioral health care should be built upon the
- 22 foundation established by the Child and Adolescent Service System Program
- 23 principles identified in Arkansas Code § 20-47-503. The guiding principles
- 24 for establishing the system of care should be:
- 25 (1) The system should be family-driven, child-centered and
- 26 youth-guided, and should include family participation at all levels of the
- 27 services system;
- 28 (2) The system should be community-based with decision-making
- 29 responsibility and management at the regional and local levels: and
- 30 (3) The System should be culturally competent, with agencies,
- 31 programs and services responsive to the cultural and individual differences
- 32 of the populations they serve.

33

- 34 20-47-604. Children's Behavioral Health Care Commission.
- 35 The Governor shall establish a Children's Behavioral Health Care
- 36 Commission. The Commission shall:

#### As Engrossed: H3/21/07 H3/26/07 HB2358

- 3 03-26-2007 10:09 MXR053
- (a) Consist of 1 at least ten (10) but no more than twenty (20) members, 2 who shall:
- 3 (1) Include families and advocates for children receiving
- 4 behavioral health care services and representatives from a variety of
- 5 behavioral health care agencies, disciplines, and providers;
- 6 (2) Serve three (3) year terms, except that the initial term for
- 7 two-thirds (2/3) of the membership shall be equally divided by lot with one
- 8 half of such persons serving an initial term of one (1) year and the other
- 9 half serving an initial term of two (2) years.
- 10 (b) Provide advice and guidance to the Department of Health and Human
- 11 Services and other state agencies providing behavioral health care services
- 12 to children, youth and their families on the most effective methods for
- 13 establishing a system of care approach.

14

- 15 20-47-605. Behavioral Health Care Initiatives.
- 16 The Department, with advice from the Children's Behavioral Health Care
- 17 Commission, shall:
- 18 (a) Identify and implement actions for ensuring that children, youth
- 19 and their families are full partners in design and implementation of all
- 20 aspects of the system of care as well as full partners' in decisions about
- 21 their care or their child's care.
- 22 (b) Identify up to \$2 million per year to apply to the following
- 23 purposes:
- 24 (1) Meeting extraordinary, non-Medicaid reimbursable needs of
- 25 children, youth and their families, as identified in multi-agency plans of
- 26 services;

#### Attachment J – cont. (p.3)

- 27 (2) Supporting creation or strengthening of entities designed to
- 28 guide the development and operation of local, regional and state components
- 29 of the system of care;
- 30 (3) Strengthening family and advocate skills and capacity to
- 31 provide meaningful input on the system of care; and
- 32 (4) Supporting the development and enhancement of needed
- 33 behavioral health care services in underserved areas.
- 34 (c) Revise Medicaid rules and regulations to increase quality,
- 35 accountability and appropriateness of Medicaid reimbursed behavioral health
- 36 care services, including, but not limited to:

#### As Engrossed: H3/21/07 H3/26/07 HB2358

- 4 03-26-2007 10:09 MXR053
- (1 1) Clarifying behavioral health care services definitions to
- 2 assure that the definitions are appropriate to the needs of children, youth
- 3 and their families:
- 4 (2) Revising the process for Medicaid to receive, review, and
- 5 act upon requests for behavioral health care for children and youth
- 6 classified as 'seriously emotionally disturbed;
- 7 (3) Clarifying Medicaid certification rules for providers
- 8 serving children, youth and their families to assure that the certification
- 9 rules correlate with the requirements for enrollment as a Medicaid provider
- 10 of behavioral health care services;
- 11 (4) Defining a standardized screening and assessment process
- 12 designed to provide early identification of conditions that require
- 13 behavioral health care services. The standardized process shall ensure:
- 14 (A) Assessments guide service decisions and outcomes and,
- 15 if appropriate, development of a multi-agency plan of services; and
- 16 (B) Services delivered are appropriate to meet the needs
- 17 of the child as identified by the assessment.
- 18 (d) Research, identify and implement innovative and promising local,
- 19 regional or statewide approaches for better managing the State's resources
- 20 devoted to children's behavioral health.
- 21 (e) Create additional capacity within the Department's Division of
- 22 Behavioral Health Services to develop, support and oversee the new system of
- 23 care for behavioral health services for children, including:
- 24 (1) Developing an outcomes-based data system to support an
- 25 improved system of tracking, accountability and decision-making; and
- 26 (2) Creating additional staff support to provide technical
- 27 assistance, utilize information, identify and encourage best practices,
- 28 monitor performance, and recommend system improvements.
- 30 20-47-606. Assessment Tool.
- 31 The standardized screening and assessment tool established by Medicaid
- 32 rules shall:
- 33 (a) Guide service decisions and outcomes;
- 34 (b) Establish guidelines to identify children who need a multi-agency
- 35 plan of services.
- 36

#### As Engrossed: H3/21/07 H3/26/07 HB2358

- 5 03-26-2007 10:09 MXR053
- 1 20-47-607. Multi-agency plan of services.
- 2 Each multi-agency plan of services shall:
- 3 (a) Be consistent with the results of the standardized screening and
- 4 assessment established by Medicaid rules;
- 5 (b) Provide for collaboration among the child, the persons or entities
- 6 responsible for the child's care and custody; and the providers of behavioral
- 7 health care services for the child; and

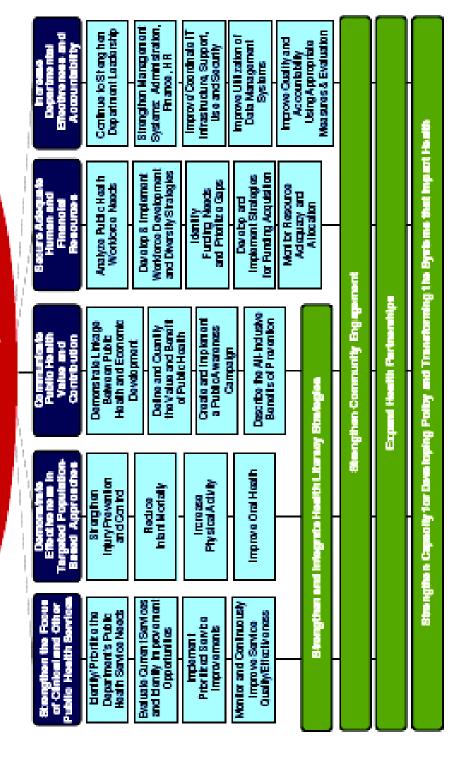
#### Attachment J - cont. (p.4)

35 36

8 (c) Be appropriate to meet the behavioral health care needs of the 9 child as defined by the assessment. 11 20-47-608. Annual Report. 12 The department of Health and Human Services shall report annually on 13 progress to the: 14 (a) Governor; 15 (b) House Interim Committee on Aging, Children and Youth, Legislative 16 and Military Affairs and the Senate Interim Committee on Children and Youth; 18 (c) The House Interim Committee on Public Health, Welfare and Labor; 19 the Senate Interim Committee on Public Health, Welfare and Labor. 20 21 20-47-609. Rules. 22 The Department of Health and Human Services shall promulgate rules in 23 accordance with the Administrative Procedure Act as necessary to carry out 24 this subchapter. 25 26 /s/ E. Brown, et al 28 APPROVED: 4/9/2007 29 30 31 32 33 34



# Improve Health Outcomes and Reduce Disperities



#### Attachment L - Act 1220

Stricken language would be deleted from and underlined language would be added to the law as it existed prior to this session of the General Assembly.

1	State of Arkansas	As Engrossed: H3/3/03 H3/1 10/	/03 H3/12/03 S4/1/03			
2	84th General Assembly	A Bill	Act 1220 of 2003			
3	Regular Session, 2003		HOUSE BILL 1583			
	By: Representatives Brace	ford, Biggs, Cleveland, Milligan				
	• •					
7						
8						
9		For An Act To Be E	ntitled			
10	0 AN	ACT TO CREATE A CHILD H	EALTH ADVISORY			
11	1 CO	MMITTEE; TO COORDINATE	STATEWIDE EFFORTS TO			
12			Y AND RELATED ILLNESSES;			
13		IMPROVE THE HEALTH OF T				
14		KANSANS; AND FOR OTHER	R PURPOSES.			
15	5					
16	6 Subtitle					
17	7 AN	ACT TO CREATE A CHILD H	EALTH ADVISORY			
18	8 CO	MMITTEE.				
19	9					
20						
21 22		HE GENERAL ASSEMBLY O	F THE STATE OF ARKANSAS:			
23	3 SECTION 1. Arkan	sas Code Title 20, Chapter 7, Sul	ochapter 1 is amended			
24	* /	al sections to read as follows:				
25						
26	* *	a Child Health Advisory Commi	ttee to consist of			
	7 <i>fifteen (15)</i> members.					
28	. , . ,	of the Department of Health shal				
29		member to represent the Departi				
3(	` , , , ,	member to represent the Arkans	as Dietetic			
	1 Association;					
32	` , , , ,	member to represent the Arkans	as Academy of			
	3 Pediatrics;	1	A 1 C			
34	( , , , , ,	member to represent the Arkans	as Academy of			
3: 31	5 Family Practice;	member to represent the Arkans	os Association			
٦r	., (6)(1)(6)(1)	menner to remesent the Arkans:	AS ASSOCIATION			

#### Attachment L – cont. (p.2)

1 for Health, Physical Education, Recreation, and Dance; (F) One (1) member to represent jointly the Arkansas Heart 3 Association, the American Cancer Society, and the American Lung Association; (G) One (1) member to represent the Arkansas School of 4 5 Public Health of the University of Arkansas for Medical Sciences; 6 (H) One (1) member to represent the Arkansas Center for 7 Health Improvement; (I) One (1) member to represent the Arkansas Advocates for 9 Children and Family; and 10 (J) One (1) member to represent the University of Arkansas 11 Cooperative Extension Service. (2) The Director of the Department of Education shall appoint: 12 (A) One (1) member to represent the Department of 13 14 Education; 15 (B) One (1) member to represent the Arkansas School Food 16 Service Association; (C) One (1) member to represent the Arkansas School Nurses 17 18 Association: (D) One (1) member to represent the Arkansas Association 20 of Education Administrators; and 21 (E) One (1) member to represent the Arkansas Parent 22 Teacher Association. (c) Terms of committee members shall be three (3) years except for the 24 initial members whose terms shall be determined by lot so as to stagger terms 25 to equalize as nearly as possible the number of members to be appointed each 26 year. 27 (d) If a vacancy occurs, the officer who made the original appointment 28 shall appoint a person who represents the same constituency as the member 29 being replaced. 30 (e) The committee shall elect one (1) of its members to act as chair 31 for a term of one (1) year. (f) A majority of the members shall constitute a quorum for the 32 33 transaction of business. 34 (g) The committee shall meet at least monthly. 35 (h) The Department of Health shall provide office space and staff for

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36 the committee.

#### Attachment L – cont. (p.3)

1	(i) Members of the committee shall serve without pay but may receive
2	expense reimbursement in accordance with § 25-16-902, if funds are available.
4	6-7-118. Powers and duties.
5	(a) The Child Health Advisory Committee shall meet at least once per
	month and make recommendations to the State Board of Education and the State
	Board of Health consistent with the intent and purpose of §§ 6-7-117 through
	6-7-119.
9	(b) The Committee shall develop nutrition and physical activity
10	standards and policy recommendations with consideration of the following:
11	(1) Foods sold individually in school cafeterias but outside the
12	regulated National School Lunch Program;
13	(2) Competitive foods as defined by the United States Department
	of Agriculture, as in existence on January 1, 2003, and offered at schools
	typically through vending machines, student stores, school fundraisers, food
16	carts, or food concessions;
17	(3) The continuing professional development of food service
	staff;
19	(4) The expenditure of funds derived from competitive food and
	beverage contracts;
21	(5) Physical education and activity;
22	(6) Systems to ensure the implementation of nutrition and
	physical activity standards; and
24	(7) The monitoring and evaluating or results and reporting of
	outcomes.
26	
27	6-17-119. Nutrition and physical activity standards - Implementation.
28	(a) The State Board of Education, after having consulted the committee
	and the State Board of Health, shall promulgate appropriate rules and
	regulations to ensure that nutrition and physical activity standards are
	implemented to provide students with the skills, opportunities, and
	encouragement to adopt healthy lifestyles.
33	(b) Beginning with the 2003-2004 school year, the Department of
	Health, in consultation with the Department of Education, shall:
35	(1) Employ one (1) qualified community health promotion
36	professional, with training, experience, or both, in nutrition, chronic

As Engrossed: H3/3/03 H3/10/03 H3/12/03 S4/1/03 HB1583

#### Attachment L – cont. (p.4)

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disease, or another related field to be housed within the Department of
1
2
   Health to plan, develop, implement, and evaluate pilot or model programs to
3
   support schools and communities, if funds are available;
4
               (2) Employ one (1) statewide health promotion consultant to be housed
5
   within the Department of Education, if funds are available;
6
               (3) Employ one (1) person as a community health promotion
   specialist to support implementation of pilot or model programs in schools
7
   and communities in nutrition and physical activity in several distinct
8
9
   geographical areas of the state, if funds are available; and
10
               (4) Not use more than five percent (5%) of the annual Department
11 of Health Master Settlement Agreement funds for the salaries or programs
12 created under this subsection (b).
        (c) Beginning with the 2003-2004 school year, every school district
13
14 shall:
15
                (1) Prohibit, for elementary school students, in-school access
16 to vending machines offering food and beverages;
17
18
               (2) Require schools to include as part of the annual report to
   parents and the community the amounts and specific sources of funds received
19
20 and expenditures made from competitive food and beverage contracts;
               (3) Require school to include as part of the student report card to
21
22 parents an annual body mass index percentile by age for each student; and
               (4) Require schools to annually provide parents with an
24 explanation of the possible health effects of body mass index, nutrition and
25 physical activity.
26
        (d) Beginning with the 2004-2005 school year, the Department of
27 Education shall:
                (1) Begin the implementation of standards developed by the
28
29 committee and approved by the Department of Education; and
                (2) Annually monitor and evaluate the implementation and
31 effectiveness of the nutrition and physical education standards.
        (e) Beginning with the 2004-2005 school year, every school district
32
33 shall:
                (1) Convene a school nutrition and physical activity advisory
34
35 committee that shall include members from school district governing boards,
36 school administrators, food service personnel, teacher organizations,
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As Engrossed: H3/3/03 H3/10/03 H3/12/03 S4/1/03 HB1583

#### Attachment L – cont. (p.5)

1	parents, students, and professional groups such as nurses and community			
2	members, to:			
3	(A) Help raise awareness of the importance of nutrition			
4	and physical activity; and			
5	(B) Assist in the development of local policies that			
6	address issues and goals, including, but not limited to, the following:			
7	(i) Assisting with the implementation of nutrition			
8	and physical activity standards developed by the committee with the approval			
9	of the Department of Education and the State Board of Health;			
10	(ii) Integrating nutrition and physical activity			
11	into the overall curriculum;			
12	(iii) Ensuring that professional development for			
13	3 staff includes nutrition and physical activity issues;			
14	(iv) Ensuring that students receive nutrition			
15	education and engage in healthful levels of vigorous physical activity;			
16	(v) Improving the quality of physical education			
17	curricula and increasing training of physical education teachers;			
18	(vi) Enforcing existing physical education			
19	requirements; and			
20	(vii) Pursuing contracts that both encourage healthy			
21				
22	2 foods of minimal nutritional value;			
23	(2) Begin the implementation of standards developed by the			
24	committee with the approval of the Department of Education and the State			
25	Board of Health; and			
26				
27				
	process.			
29	(f) The Department of Education and the Department of Health shall			
	report annually on progress in implementing nutrition and physical education			
	standards to the cochairs of the House and Senate Interim Committees on			
	Public Health, Welfare, and Labor.			
33				
34	/s/ Bradford			
35				
36	APPROVED: 4/10/2003			

#### **Attachment M**



Office of Performance Review Dallas Regional Division 1301 Young Street, Suite 1030 Dallas, Texas 75202

#### **Arkansas Strategic Partnership Session Report**

Date of Strategic Partnership Session – November 14, 2008

Laurie Wolfgang, Team Leader Charles Hostetter, M.D., Consultant Jeff Jordan, Supervisor

December 31, 2008

#### Attachment M – cont. (p.2)

#### **EXECUTIVE SUMMARY**

The Health Resources and Services Administration (HRSA) Office of Performance Review (OPR), Dallas Regional Division, hosted the Arkansas State Strategic Partnership Session (SSPS) in Little Rock, Arkansas on November 14, 2008. The SSPS included eleven participants representing six HRSA grantees. Also, the Centers for Disease Control and Prevention (CDC) Senior Management Official for Arkansas attended the session. A kick-off meeting held in April, 2008, enabled the participants to introduce their respective organizations and discuss health indicators and issues facing their programs and populations. Subsequent conference calls allowed participants to explore potential areas of focus for the SSPS. The participants selected access to health care for women of child bearing age as the focus of the partnership session.

The state of Arkansas is a primarily rural state with unemployment and poverty levels significantly higher than the rest of the country. Women in the state face several health and economic disparities. More than half of all Arkansan families' incomes fall below 200% of poverty (<\$37,700) and more women suffer from poverty than do in the rest of the United States (19% for the state compared to 17% women nation-wide). Twenty-three percent of all women in Arkansas have no health insurance, exceeding the national rate of 18%. The state ranks 48<sup>th</sup> in the nation for the percent of women 18 years and older receiving a pap test in the past three years (81%); and 41<sup>st</sup> in the nation for the percent of pregnant women accessing prenatal care during the first trimester (69%).

The SSPS included an overview of key health and economic indicators for women in Arkansas in the areas of oral health, HIV/AIDS, chronic disease, health care coverage, reproductive health, and workforce shortages. Participants engaged in a discussion about specific challenges and barriers facing women and their access to health care. Workforce shortages, low health literacy, cultural issues, and HIV stigma emerged as a few of the primary barriers to access. The group highlighted a number of successes and potential opportunities in the area of women's health care advocacy and accessibility and included elected officials' support of women's health issues and numerous statewide efforts to expand the accessibility of women's health care.

The outcome of the SSPS resulted in the creation of an agreement which will formalize a partnership among the statewide HRSA grantees, and will articulate women's health priorities shared by the grantees. This agreement will set forth the desired outcomes for the partnership and will describe specific action steps each HRSA grantee group will carry out. Two planned actions include a collaborative effort in conducting the 2009 Maternal Child Health Block Grant Five Year Needs Assessment and the development of a unified approach in advocating for women's health care needs among community and state elected officials and policymakers.

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#### I. State Profile

River Valley

Ouachitas

Ozarks

Timberlands

Central

Arkansas covers an area of 52,068 square miles and has a population of 2,810,872.¹ The state is divided into 75 counties, and is bordered by Texas, Louisiana, Mississippi, Missouri, and Oklahoma. Three out of four Arkansas counties are rural.² The state is divided into six natural regions: Ozarks, River Valley, Ouachitas, Central, Timberlands, and the Delta.³ The Ozarks includes the northwestern portion of the state just north of the Ozark Mountain range. Although this area experiences high poverty rates, it also includes Benton County, the home of Wal-Mart Stores

Incorporated and the largest employer in the region. The southwest region of the state, including the Ouachita Mountains, encompasses cities such as: Camden, El Dorado, and Arkadelphia. This area is largely rural but is home to Hot Springs National Park and a large mining community which support the economic growth of the area. The Central Arkansas region encompasses several of the larger cities within the state, including the capitol city of Little Rock, and represents the highest employment rates in the state. The Timberlands region includes the southern portion of the state and is primarily supported by hunting, resort, and tourism. The Arkansas Delta refers to the eastern portion of the state adjacent to the Mississippi River. The region is largely rural with a primarily agricultural economy and high levels of poverty and unemployment. Some counties in the Delta region experience unemployment rates as high as 9.3% compared to 6.2% nationally; and poverty rates of 19.7% compared to 13.1% nationally.

The state's principal industries are manufacturing, agriculture, forestry, business services, and tourism.<sup>5</sup> Five Fortune 500 companies have headquarters in Arkansas and serve as major employers to the state, including Wal-Mart Stores, Tyson Foods, Murphy Oil, Alltel, and Dillard's.<sup>6</sup> As of December 2007, Arkansas' unemployment rate was 5.9%, higher than the nation's (5.0%) and an increase from the previous year's rate of 5.4%<sup>7</sup>. In 2006, the Arkansas per capita income was \$28,444, which was the third lowest in the nation<sup>8</sup> Among the states, Arkansas has the fourth highest proportion of people living below the poverty level (17.3%).<sup>9</sup>

<sup>&</sup>lt;sup>1</sup> U.S. Census Bureau QuickFacts 2006. http://quickfacts.census.gov/qfd/states/05000.html

<sup>&</sup>lt;sup>2</sup> Rural is defined as eligible for HRSA Rural Health grants. HRSA Office of Rural Health Policy, <<u>ftp://ftp.hrsa.gov/ruralhealth/Eligibility2005.pdf</u>>. Accessed March 7, 2008.

<sup>&</sup>lt;sup>3</sup> Arkansas Department of Parks and Tourism.

<sup>&</sup>lt;sup>4</sup> U.S. Bureau of Labor Statistics unemployment data, 2005; U.S. Census Bureau poverty data, 2000

<sup>&</sup>lt;sup>5</sup> Arkansas Economic Development Commission. Arkansas State Profile. February 2008.

<sup>&</sup>lt;sup>6</sup> The Fortune 500 is compiled by *Fortune* magazine, and ranks the top 500 American public corporations by gross revenue. <a href="http://money.cnn.com/magazines/fortune/fortune500/2007/full-list/index.html">http://money.cnn.com/magazines/fortune/fortune500/2007/full-list/index.html</a>>. April 30, 2007 issue.

<sup>&</sup>lt;sup>7</sup> Rate is seasonally adjusted. Bureau of Labor Statistics: Regional and State Employment and Unemployment: December 2007 News Release. Accessed 2/26/2008. <a href="http://www.bls.gov/news.release/pdf/laus.pdf">http://www.bls.gov/news.release/pdf/laus.pdf</a>>

<sup>&</sup>lt;sup>8</sup> Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce. <a href="http://www.bea.gov/regional/spi/SA1-3fn.cfm">http://www.bea.gov/regional/spi/SA1-3fn.cfm</a>. Accessed February 26, 2008.

<sup>&</sup>lt;sup>9</sup> Source: U.S. Census Bureau, 2006 American Community Survey. <a href="http://factfinder.census.gov">http://factfinder.census.gov</a>>. Accessed March 10, 2008. The Census Bureau's poverty definition uses a set of money income thresholds that vary by family size and composition to detect who is below the poverty level. Households are classified as poor when the total income of the householder's family is below the appropriate poverty threshold.

#### Attachment M - cont. (p.5)

Compared to the national average, Arkansas has a lower percentage of persons of Hispanic or Latino origin (5.0% versus 14.8% nationwide) and a higher percentage of Whites who are not Hispanic or Latino (76.4% versus 66.4% nationwide.) Educational attainment is slightly lower than the rest of the country with the percentage of high school graduates approximately 5 percentage points lower than the national average (75.3% versus 80.4%.). The percentage of college graduates is also lower than the national average (16.7% versus 24.4%.). Age breakdowns match the U.S., with a slightly older median age (37.1 versus 36.4).

The United Health Foundation's *America's Health Rankings 2007* found that Arkansas ranked 48 out of the 50 states, declining two spots from 2006.<sup>10</sup> The report found that while obesity rates declined and immunization coverage increased, the percentage of children in poverty increased 43%. In addition, the report noted an increase in cancer and premature death rates. The state has 93 designated Medically Underserved Areas and Populations (MUA/P)<sup>11</sup> with an average score of 51.5. The state also has 82 designated Primary Care Health Professional Shortage Areas (HPSAs), 36 designated mental health HPSAs, and 36 designated dental care HPSAs.<sup>12</sup> One out of five Arkansans report that they do not have health insurance coverage (20.6%).<sup>13</sup>

#### **II.** Participants and Process

The Health Resources and Services Administration (HRSA) grantees participating in the Arkansas State Strategic Partnership Session (SSPS) represent statewide programs that are charged with administering and or improving various programs within community health, HIV/AIDS services, rural health, oral health, workforce, and maternal and child health. The Centers for Disease Control and Prevention Management Official for the State also participated in the session.

#### A. List of Participants in Alphabetical Order

Carol Amerine, RDH, Program Manager Office of Oral Health, Arkansas Department of Health 4815 W Markham St, Slot 41 Little Rock, AR 72205

Steven F. Boedigheimer, MBA

<sup>&</sup>lt;sup>10</sup> United Health Foundation. America's Health Rankings: A Call to Action for People & Their Communities. 2007. http://www.unitedhealthfoundation.org/ahr2007/index.html February 26, 2008.

<sup>&</sup>lt;sup>11</sup> HRSA Geospatial Data Warehouse, Arkansas State Profile. < <a href="http://datawarehouse.hrsa.gov/">http://datawarehouse.hrsa.gov/</a>. Accessed February 26, 2008. MUAs may be a whole county or a group of contiguous counties, a group of county or civil divisions or a group of urban census tracts in which residents have a shortage of personal health services. MUPs may include groups of persons who face economic, cultural or linguistic barriers to health care.

<sup>&</sup>lt;sup>12</sup> HRSA Geospatial Data Warehouse, Arkansas State Profile. < <a href="http://datawarehouse.hrsa.gov/">http://datawarehouse.hrsa.gov/</a> Accessed February 26, 2008. HPSAs may have shortages of primary medical care, dental or mental health providers and may be urban or rural areas, population groups or medical or other public facilities.

 $<sup>^{\</sup>rm 13}$  Behavioral Risk Factor Surveillance System, 2006 County Data Report.

<sup>&</sup>lt;a href="http://brfss.arkansas.gov/county\_data.html">http://brfss.arkansas.gov/county\_data.html</a>>. Accessed March 10, 2008.

#### Attachment M – cont. (p.6)

CDC Senior Management Official for Arkansas Arkansas Department of Health 4815 West Markham Street (Slot 39) Little Rock, Arkansas 72205

Jacqueline Gorton, Project Director Office of Rural Health and Primary Care Hometown Health and Support Services Branch, Arkansas Department of Health 4815 W. Markham, Slot 22 Little Rock, AR 72205

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Children's Medical Services
Division of Developmental Disabilities Services, Arkansas Department of Human Services
P.O. Box 1437, Slot S-380
Little Rock AR 72203

Tiyanika Keller, MPA, Program Manager Ryan White Part B HIV/STD/Hepatitis C Section, Arkansas Department of Health P.O. BOX 1437, Slot H-33 Little Rock, AR 72203-1437

Kellye McCartney, Assistant Section Chief HIV/STD/Hepatitis C Section, Arkansas Department of Health P.O. BOX 1437, Slot H-33 Little Rock, AR 72203-1437

Mark Mengel, MD, MPH, Vice Chancellor Regional Program/Executive Director Arkansas Area Health Education Centers Program (AAHEC) University of Arkansas for Medical Sciences (UAMS) 4301 W. Markham Street, Slot 599 Little Rock, AR 72205

Lynn Mouden, DDS, MPH, Director Office of Oral Health, Arkansas Department of Health 4815 W Markham St, Slot 41 Little Rock, AR 72205

Sip B. Mouden, CEO/Executive Director Community Health Centers of Arkansas, Inc. 420 West 4th Street, Suite A North Little Rock, AR 72114-5358

#### Attachment M – cont. (p.7)

Richard Nugent, MD, MPH, Branch Chief Family Health Branch, Arkansas Department of Health Freeway Medical Building 5800 West 10<sup>th</sup>, Slot H16 Little Rock, AR 72204

Bradley Planey, MS, MA, Associate Branch Chief Family Health Branch, Arkansas Department of Health 5800 West 10th St., Suite 401 Little Rock, AR 72204

Bill Rodgers, Director Office of Rural Health and Primary Care Hometown Health and Support Services Branch, Arkansas Department of Health 4815 W. Markham, Slot 22 Little Rock, AR 72205

#### B. Highlights of the Kick-Off Session and Conference Calls

The kick-off session for the Arkansas SSPS was held April 2, 2008 at the offices of Community Health Centers of Arkansas (CHCA), in North Little Rock, Arkansas. Eight HRSA-funded grantee representatives attended the session. Two consultants, Charles Hostetter and Bill Foxcroft, and three HRSA staff, including the Maternal and Child Health Block Grant Project Officer were in attendance. Participants provided an overview of their HRSA-funded program and shared information on public health indicators and priorities for their respective programs. Other presentations included an overview of the Arkansas Health Crisis Summit<sup>14</sup>; trend data on infant mortality, low birth weight, infant mortality, and teen birth rates; and the HIV/AIDS quarterly report for the state. Following the kickoff meeting, the SSPS partners participated in three conference calls over the next six months to discuss and select the priority health issue for the next face-to-face meeting. Several potential health issues surfaced during the discussions, including perinatal health, medical home, data, health disparities, women's health, and health profession workforce shortages. Finally, a survey of all participants resulted in the selection of the priority health issue: access to health care for women of child bearing age.

#### C. Priority Health Issue: Access to Health Care for Women of Child Bearing Age

Women have a different relationship to the health care system than men and are more likely to use health care services because of a higher incidence of chronic disease and

<sup>&</sup>lt;sup>14</sup> The Arkansas Primary Care Association hosted its annual conference in August, "Health Crisis: A Summit on Health Policy and Legislation".

#### Attachment M - cont. (p.8)

lifelong need for reproductive health and related services. <sup>15</sup> Significant health and economic disparities exist among women in Arkansas compared to the rest of the United States which are highlighted below and the SSPS participants felt this issue was one that affected all of their programs.

#### III. Women's Health Care in Arkansas – Indicators and Issues

In order to better understand the issues facing women's health care in Arkansas, an overview of the status of various public health indicators and health-related issues is discussed below:

#### Health Insurance Coverage and Income

Health insurance coverage is a critical factor in making health care accessible to women. Statistics show that individuals without health insurance are more likely to delay securing medical care when it is needed, are the recipients of more expensive and less efficacious treatments, with shorter life expectancy than those with health insurance coverage <sup>16</sup>. Health insurance coverage for women in Arkansas in 2007 was 69% private, 8% Medicaid, and 23% uninsured. This uninsured rate far exceeds the rate of women nation-wide at 18%. More than half of all Arkansan families' incomes fall below 200% of federal poverty level (<\$37,700) More women suffer from poverty than do in the rest of the United States with 19% of Arkansan women falling below the poverty level compared to 17% of women nation-wide. The sum of the states with 19% of Arkansan women falling below the poverty level compared to 17% of women nation-wide.

#### Reproductive Health

Reproductive health is a universal concern, and is of special importance for women particularly during the reproductive years because the health of newborns is largely a function of mother's health and nutrition status and of her access to health care<sup>20</sup>. According to the Guttmacher Institute's *Women In Need Study, 2006*, there were approximately 605,520 women of child bearing age (aged 13-44) in Arkansas at the time of the study. The state ranks 48<sup>th</sup> in the nation for the percent of women 18 years and older receiving a pap test in the past three years (81%); and 41<sup>st</sup> in the nation for the percent of pregnant women accessing prenatal care during the first trimester (69%).<sup>21</sup> <sup>22</sup>

<sup>&</sup>lt;sup>15</sup> Women's Health in the United States: Health Coverage and Access to Care, Kaiser Family Foundation, May 2002.

<sup>&</sup>lt;sup>16</sup> Arkansas Department of Health State Rural Health Plan, November 2008.

<sup>&</sup>lt;sup>17</sup> Urban Institute and Kaiser Family Foundation estimates of pooled 2006 and 2007 ASEC Supplement to the Current Population Surveys. U.S. Total figures based on March 2007 Survey.

<sup>&</sup>lt;sup>18</sup> 2005 Arkansas Fact Book: A Profile of the Uninsured

<sup>&</sup>lt;sup>19</sup> Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on the Census Bureau's March 2007 and 2008 Current Population Survey

<sup>&</sup>lt;sup>20</sup> United Nations Population Information Network (POPIN), Guidelines on Reproductive Health

<sup>&</sup>lt;sup>21</sup> National Report Card on Womens Health. National Womens Law Center and Oregon Health & Science Center

<sup>&</sup>lt;sup>22</sup> United Health Foundation – America's Health Rankings 2006

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#### HIV/AIDS and STDs

The AIDS epidemic has taken a growing toll on women, particularly those who are minority and low income, since the disease was first identified in 1981. As of June, 2008, women represent an estimated 24% of the year-to-date new HIV infections in Arkansas and 34% of AIDS cases in the state. Both statistics represent an increase since 2003, when women represented 22% of new HIV cases and 23% of AIDS cases.<sup>23</sup>

#### Oral Health

While oral health is important in the overall health of all individuals, female hormones can lead to an increase in some problems, such as: cold sores and canker sores, dry mouth, changes in taste, and a higher risk of gum disease. And pregnancy poses additional oral health needs.<sup>24</sup> Arkansas ranks 48<sup>th</sup> in the nation for the percent of women aged 18+ who have visited a dentist or dental clinic in the past year (81% compared to 86% nationwide.<sup>25</sup> The state has no dental school and although the current legislation can subsidize up to thirty students' tuition at nearby dental schools, not all graduates return to the state to practice.

#### Chronic Disease

Chronic diseases such as heart disease, stroke, cancer, and diabetes, are among the most prevalent, costly, and preventable of all health problems. Arkansas has one of the highest rates of death among females due to stroke, placing them at the bottom of the state rankings. According to the Arkansas Department of Health, the percentage of women who report ever being told by a doctor that they have high blood pressure is 30%, compared to 27% nationally. The cervical cancer incidence rate per 100,000 for Arkansas women is 10, compared to 8 for the nation. The prevalence of diabetes in Arkansas has been at or above the national average for the past 10 years, and increased by 35% between 1993 to 2002.

Obese Arkansans with a BMI of 30 or more made up 26% of the adult population in 2004, compared to 23% for the nation. Thirty-eight percent of Arkansas school-aged children have a BMI greater than the 85th percentile for their age group, compared to 17% nationwide. Arkansas adult females are more likely to be obese than U.S. adult females (28% for Arkansas compared to 25% for the nation).<sup>26</sup>

#### Health Care Workforce Issues

Current and predicted shortages in the health care professions impact the accessibility of health care. Arkansas experiences significant workforce shortages for nursing,

<sup>&</sup>lt;sup>23</sup> Arkansas State Department of Health HIV/AIDS Quarterly Surveillance Report, June 2008.

<sup>&</sup>lt;sup>24</sup> The National Women's Health Information Center, U.S. Department of Health and Human Services. Office of Women's Health, <u>www.womenshealth.gov</u>.

<sup>&</sup>lt;sup>25</sup> 2004 National Oral Health Surveillance System

<sup>&</sup>lt;sup>26</sup> Behavioral Risk Factor Surveillance System, Arkansas 2007.

#### Attachment M – cont. (p.10)

medicine, pharmacy, and allied health professionals. Arkansas ranked 48th among states in physicians per capita with 154 physicians per 100,000 persons in 2000. This was below the national ratio of 198 physicians per 100,000. According to the 2008 Study on Health Workforce Vacancies in Arkansas conducted by the AAHEC, there were 3,870 current vacancies for 85 health professionals and 10,734 expected vacancies within the next 5 years for 87 health professionals in nursing, allied health professions, physician specialties, primary care specialties, and pharmacy. According to the 2001 Health Professional Licensing Survey, the seven major population centers contained more than half (55%) of the licensed dentists, leaving other parts of the state underserved. The national average for number of persons per dentist is 1,700, whereas for Arkansas, it is 2,471.

#### IV. Analysis of the Priority Health Issue

A. **Successes and Opportunities.** The SSPS participants discussed successes and opportunities to improve access to health care for women of childbearing age. The following were identified by the participants as contributing to improved access:

Medicaid Support of Women's Health. The Women's Health Medicaid Waiver funds low cost family planning and preventive services for all women of reproductive age up to 200% of the Federal Poverty Level. In 2004, the State's Medicaid program expanded to allow the provision of child health care to uninsured, low-income children, including unborn children who will be U. S. citizens at birth. Therefore, prenatal services are available to pregnant, undocumented immigrants who meet the income eligibility.

Elected Official Support of Women's Health. A record number of 32 women will be seated in the state Legislature this January. The November 2008 election increased the number of women senators from six to seven and the number of state representatives from 22 to 25. Women will make up almost a fourth of Arkansas' Legislature, and that brings Arkansas in line with the national average of 23%. More female legislators may increase advocacy for women's health and subsequent policy development at the state level. The Governor recently addressed the Arkansas Department of Health on the role of public health in economic development, workforce stability, and education.

Multiple Health Care Delivery Sites in Underserved Areas: The Community Health Centers program supports 58 health care delivery sites located in medically underserved areas throughout the State. Six Family Medicine Centers that are part of the Arkansas AHEC program provide care to a large number of underserved woman and children, including providing obstetrical services. The Maternal and Child Health Program has a network of service providers throughout the State. The Program for Children with Special Healthcare Needs provides services in a number of locations.

#### Attachment M - cont. (p.11)

The HIV program makes efforts to assure that oral health services are made available at multiple population centers around the state. The Office of Rural Health and Primary Care through its contract with the National Health Service Corps, seeks to recruit health professionals to serve in HPSAs throughout Arkansas.

Programs to Augment the Health Care Workforce Efforts. The Arkansas Area Health Education Center has numerous programs designed to increase the supply of health professionals, with a specific focus on training professionals for rural and underserved areas. The six family medicine residency training program promote the retention of UAMS College of Medicine Graduates in rural Arkansas. In 2007-08, the AHEC Residencies provided training for 130 Family Medicine residents, with 45 graduates completing a 3-year AHEC residency to become board eligible in Family Medicine. The Federal and State loan repayment programs provide incentives for health professionals to serve in underserved areas. The State's Ryan White Part B program actively educates and recruits medical and dental providers around the state to provide services to PLWH/As. Telemedicine programs, such as the University of Arkansas' ANGELS program (Antenatal and Neonatal Guidelines, Education and Learning System), seeks to improve remote access to a variety of specialty services for residents of rural areas. The ANGELS program is a consultative service for obstetricians, neonatologists, and pediatricians in Arkansas that provides evidencebased guidelines for maternal-fetal and neonatal care. ANGELS utilizes interactive compressed video and weekly telemedicine conferences to enable physicians to confer with maternal-fetal medicine specialists in real-time about individual cases. The Office of Oral Health offers bonuses to dentists and dental hygienists who work in community health centers, and a workforce grant facilitates the placement of more dentists and hygienists in rural areas.

Statewide Initiatives. The state health department's strong breast and cervical cancer program, BreastCare, provides free screening, diagnosis and treatment services for Arkansas women in addition to public and professional education. State funded family planning clinics are located in every county. Tobacco settlement money in the state is being used for smoking cessation program support and population-specific programs such as pregnant women cessation. A policy group called Arkansas Advocates for Children and Families educates and advocates to legislators on policy reform for children and families. The Arkansas Center for Health Improvement is an independent health policy center dedicated to improving the health of Arkansans. It is jointly supported by the UAMS, the Arkansas Department of Health (ADH), and Arkansas Blue Cross and Blue Shield. The state is part of a 3 year pilot project of the Federal Communications Commission (FCC) to support the connectivity expenses to allow medical information and education to be delivered across the voice and high-speed data network to nearly 800 locations across the state.

#### Attachment M – cont. (p.12)

Increase in HIV Funding and Collaboration. The ADH HIV/STD Department worked to increase the number of medical and dental access points for persons with HIV. Currently the Part B services are available to all HIV infected persons with up to 500% of the Federal Poverty Level. The program staff stated that they have a strong partnership with Arkansas community health centers to provide HIV care in the rural areas. Also the program works closely with the AIDS Education and Training Center (AETC) and the AHEC.

Partnerships and Collaborations Among Health Care Providers and Programs: The HRSA grant supported programs in the State of Arkansas, along with other safety net health care providers, have a long history of working collaboratively with each other. By doing so, the State's HRSA-funded programs enhance access to services for disadvantaged, low income, uninsured, and underinsured residents.

B. **Challenges and Barriers.** The SSPS participants identified a number of barriers that create challenges for meeting the health care needs of women of child bearing age:

Workforce Shortages. The state experiences significant workforce shortages in health care professions, which are expected to double over the next five years unless changes occur in training, recruitment, and retention of health workers. Currently, nursing has the highest number of current vacancies and allied health professions have the highest number of expected vacancies in the next fives years. <sup>27</sup> Additionally, with no state dental school, the pool of future dental providers is limited. Currently the state's Department of Higher Education subsidizes the tuition costs for thirty Arkansas resident students to attend nearby dental schools. The program requires dental students receiving state funding support for their dental education to reimburse the State of Arkansas all funds paid on their behalf if they do not return to Arkansas to practice dentistry. Currently, the legislation requires that loans be forgiven at the rate of one academic year's loan for one calendar year's practice in Arkansas. Despite this incentive, not all graduates return to the state to practice. <sup>28</sup>

While certified nurse midwives (CNM) can often fill the gap in obstetrical services in rural areas, malpractice insurance can be difficult to obtain which presents a potential liability for facilities employing CNMs. Participants stated that some in the medical community perceive CNMs as potential competition and a malpractice liability in the rural areas.

<sup>&</sup>lt;sup>27</sup> Health Workforce Vacancies in Arkansas - Final Report, July 4, 2008

<sup>&</sup>lt;sup>28</sup> Arkansas Department of Higher Education, Health Education Grant Program (ARHEG) pursuant to Act 1715 of 2003, rules and regulations.

#### Attachment M – cont. (p.13)

<u>Culture, Health literacy and Socio-Economics of the Population</u>. High poverty rates, rural isolation, child care needs, and a lack of trust in the health care system contribute to low utilization of available services. Health literacy is a significant barrier for both men and women in the state resulting in the low prioritization of preventive and chronic disease management. Also, Northwest Arkansas is home to a large Marshallese population with some of the lowest health status indicators in the state, high rates of communicable diseases, and inadequate access to care. Though this population lives and works in the United States legally, natives of the Republic of the Marshall Islands are not eligible for government funded health care programs such as ARKids First, Medicaid and Medicare.

<u>Stigma associated with HIV, particularly in rural areas</u>. The Ryan White Part B representatives stated that women face a greater stigma with their HIV status, face unique challenges accessing services, and need greater psychosocial support. Also, the representatives reported that people living with HIV/AIDS encounter difficulties finding medical and dental providers.

Transition of Health Care for Adolescent Females with Special Health Care Needs. The transition of care for female adolescents from pediatric health care to adult-oriented care presents many challenges. The need for family planning and other obstetrical/gynecologic services may present before transition from the state's program at age 18. Additionally, locating and coordinating adult specialty care can be challenging, particularly in rural areas.

#### VI. Goals for the SSPS Group

The SSPS participants developed the following goals for the group.

## A. Increase collaborations among statewide health programs that focus on the health care needs of women of childbearing age.

Richard Nugent, the Family Health Branch Chief, will facilitate a process for the creation of an agreement which will formalize a partnership among the statewide HRSA grantees, and will articulate women's health priorities shared by the grantees. This agreement will set forth the desired outcomes for the partnership, and will describe specific areas of activity to be carried out by the HRSA grantee group, including:

- providing comments and input into the five year needs assessment for the Maternal and Child Health Block Grant;
- developing common women's health priorities which can be embraced by all HRSA statewide grantees;

#### Attachment M – cont. (p.14)

- seeking effective methods for advancing women's health priorities within the grantees' respective organizational settings;
- developing approaches to providing greater visibility, and advocating for, women's health care needs among state elected officials and policymakers;
- exploring grant opportunities which could support the group's shared principles and objectives;
- providing for a process of ongoing communication among the grantees in support of the partnership's objectives;
- other activities as appropriate.

Action Steps: (timelines to be developed by grantee group)

- Step 1: Develop a draft agreement and distribute to the grantees for review and comment. (Richard Nugent)
- Step 2: Provide written comments and suggested changes to the draft agreement. (lead persons from each of the statewide HRSA grantees)
- Step 3: Incorporate written comments into second draft of the agreement, and distribute for review and comment. (Richard Nugent and Staff)
- Step 4: Finalize the agreement. (Richard Nugent and Staff)
- Step 5: Dissemination of agreement for signature by grantee representatives.
- B. Explore innovative approaches to workforce education, with a specific focus on cultural relevance, improved health literacy, the improvement of care coordination, and assistance to patients in navigating the health service system.

Expanded access to health services for women requires that they be knowledgeable about the importance of seeking services, and that they are provided culturally appropriate assistance in gaining entry into, and navigating the system.

Since all of HRSA's grantees aim to improve access to services, and workforce shortages are identified as an important barrier to access, this goal provides an opportunity for the grantee group to address a specific access issue of common concern to all participants.

SPS participants will first identify the specific women's health workforce needs. The development of the five year needs assessment for the Maternal and Child Health

#### Attachment M – cont. (p.15)

Services Block Grant provides an excellent opportunity for all of the grantees to discuss and identify such workforce needs.

After the specific workforce needs are identified, the grantee group can then focus on the development of approaches to ameliorate the workforce shortages. Innovations effectively employed in other settings, such as expanded use of specially trained "Promotoras" or community health workers to serve as patient educators/advocates, could be considered.

Specific, on-going action steps, will be developed by the group.

#### Attachment N

# TITLE V DIRECTORS MEETING TUESDAY, MARCH 7, 2010 AMCHP ANNUAL CONFERENCE

AR: Dick Nugent, Bradley Planey, Iris Fehr, Rodney Farley

OK: Suzanna Dooley, John Johnson, Teresa Ryan

LA: Susan Berry, Karis Schoellman

TX: Sam Cooper, Lesa Walker, Rachel Samsel, Jamie Clark, Carol Harvey

Cassie Lauver (MCHB)
Michelle Alletto (AMCHP)
Brittni Frederikson (Tulane Student)
Lura Daussat (OZ Systems)

#### I. MCHB Update – Cassie Lauver

- Block grant reviews this year will be one state per day
  - o August 9/16
  - Princess Jackson will most likely be there
- 75<sup>th</sup> Anniversary of Title V in October and there will be concurrent meetings (LENDS, AMCHP) –
  there will be 2000 invited to the commemoration.
  - Partnership meeting will include strategic planning for MCHB (social determinants, health equity, and lifecourse)
- Amy Fine and Milt Kotelchuck working with MCHB on lifecourse
- On HRSA Regional Reorganization/MCH Liaisons to Regional Offices:
  - o ORO Central Office is working on field offices
  - Five purposes:
    - Serve as regional liaison to MCHB on regional issues there are people in regional offices for each state
    - Communications vehicle on AMCHP calls
    - Identify regional issues
    - Point of contact for Medicaid and others in regional offices
    - Review with MCHB projects to advance MCH issues
  - Quarterly calls are held with the 10 regional offices and MCHB
  - No role change with project officer
  - o OK and TX have met with Princess Jackson; AR has had brief calls, LA has had no calls
  - MCH is a small part of Princess's job field office's biggest role is ARRA and Health Service Corps
  - Marjorie Petty (from Kansas) is the Regional Health Director it is a political appointment
     has ACF, CDC, HRSA, all of HHS

#### II. AMCHP Update – Michelle Alletto

#### **Policy Updates**

- As expected with the beginning of a new Administration, there is a lot of policy work underway
  and AMCHP has been playing a leading role in advocating for State Title V Programs. I have a
  couple of updates to share, and if there are any questions or suggestions I can make sure they
  get to members of AMCHP's Policy Staff for follow-up.
- AMCHP's Policy Team has been working hard to advocate with both the new Administration and new Congress on a range of MCH issues, including our top priority of full funding for the Title V MCH Block Grant. To guide this work, our Legislative and Health Care Finance Committee and Board have put together a 100 Day Agenda of Policy Steps the New Administration and

### Attachment N (p.2)

Congress can take to improve the health of women, children, and families – copies of that are on our web site and available here at the AMCHP exhibit.

- Additionally, this past Saturday, the AMCHP Board of Directors was considering the 2009 AMCHP Legislative Agenda which spells out our priorities and as always puts full funding of the MCH Block Grant at the top of the list.
- AMCHP has also created a one-page Principles for Health Reform that our policy staff is using
  to advocate for the inclusion of MCH in health reform plans. We are very pleased that a senior
  representative of the Obama Administration and others will join us this afternoon at the closing
  plenary to share some thoughts on what the opportunities and prospects for health reform will be.
- Additionally, the policy team has just updated our Title V Appropriations Fact Sheet which
  summarizes our talking points in support of full funding for the MCH Block Grant. Additionally,
  each state's MCH and CSHCN Director was asked to review updates to our AMCHP State Title
  V Profiles that are now posted on our web site and provide a concise one-page profile of each
  state's Title V Program. These are used in any visits we make to the Hill, so thanks to all who
  reviewed and provided feedback.
- We hope you noticed that we revived the practice of setting aside time on the annual conference agenda for those who are able to make Hill visits to educate policymakers on the essential work of Title V and advocate for increased funding. We need everyone's help in raising the visibility and understanding of Title V among policymakers, so please be on the watch for additional info from our policy team on how you can help.
- Finally, regarding the recently passed stimulus legislation, we hope you saw the frequent updates we sent out as that process unfolded. AMCHP remains disappointed that no funds were included for the Title V Maternal and Child Health Services Block Grant,; however the \$87 billion included for Medicaid will help states maintain coverage of vulnerable populations, and the \$1 billion included for the Wellness fund is a welcome investment in prevention. Of the \$1 billion for prevention, the law directs that \$300 million is for the Section 317 Immunizations program; \$50 million is for prevention of healthcare associated infections; and \$650 million is for "Prevention and Wellness." Our staff is seeking details now on how those funds will be distributed, and will provide that through our newsletters as it becomes available.

### **Program Updates**

- AMCHP continues to seek submissions of best practices in maternal and child health from around
  the country. Whether it's an effective campaign to promote breastfeeding, an outstanding nursefamily partnership, or a proven early intervention program for young children, we want to get the
  word out about your best practice. Best Practice submissions are accepted on a rolling basis.
  Award-winning Best Practices will be featured at this Annual Conference, and if you'd like more
  information we have that posted on our web site or you can contact Darlisha Williams on our staff.
- The Family & Youth Leadership Committee has developed an AMCHP Fact Sheet titled, AMCHP Family Delegate Fundamentals. The purpose of the two page document is to answer questions regarding AMCHP's Family Delegate, the role of this individual, potential responsibilities, what to keep in mind as a state selects a Family Delegate, and what support states might provide to this individual. The FYLC hopes that the Fact Sheet will contribute to creating some consistency about the AMCHP Family Delegate in Title V programs. The AMCHP Family Delegate Fact Sheet will be available in PDF format on the AMCHP website. If you have any questions, please direct them to Librada Estrada at <a href="lestrada@amchp.org">lestrada@amchp.org</a>.
- AMCHP Membership Renewal notices went out the first week in August. Each state should have received an invoice with your state's delegates named. Family delegates are still needed for some states - if you have not named one already can assistance help from Ruth Walden or Mary Marin who serve as family representatives on our Board.
- This year AMCHP had the most applicants to the Family Scholarship Program. We were able to support 11 individuals as Family Scholars and three as Family Mentors with support by MCHB

### Attachment N (p.3)

and the CDC. The states represented in this year's group are: Connecticut, Florida, Illinois, Iowa, Kentucky, Maine, Minnesota, New Jersey, North Carolina, Oregon, and Wisconsin.

We want to make another plug for visiting our AMCHP offices whenever you are here in DC. We
would love to host any members for a brownbag breakfast or lunch so that all AMCHP staff can
hear directly from you and get a sort of "day-in-the-life of an MCH leader" perspective.

#### III. Regional Performance Measure

- (Handouts provided)
- PRAMS measure #72 can think about building measure over a few years and incorporating planning phase first – can add state performance measure in interim years
- Maternal depression is an issue that needs to be addressed in the region could lead to more resources for TA or funded activities to address issue from CDC or MCHB
  - AR Synergy between infant and women's health life-course/social determinants
  - o OK measure would fit in their Infant Mortality Reduction Initiative
- Would be helpful to get a statistician's perspective
- 2009 was first year that questions was asked LA has added "panicky and restless" to choices but hasn't seen data yet because it is a new questions
- Perhaps there is an angle to explore with NFP and home visiting expansion
- Also a possible connection to newborn screening and CSHCN

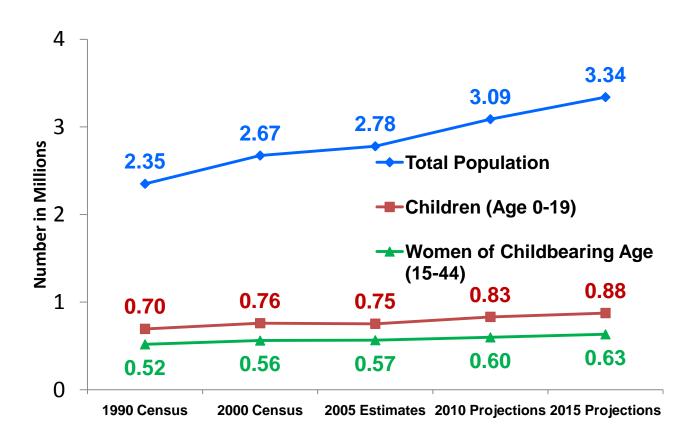
IV. Action Items

AMCHP Staff – Send minutes

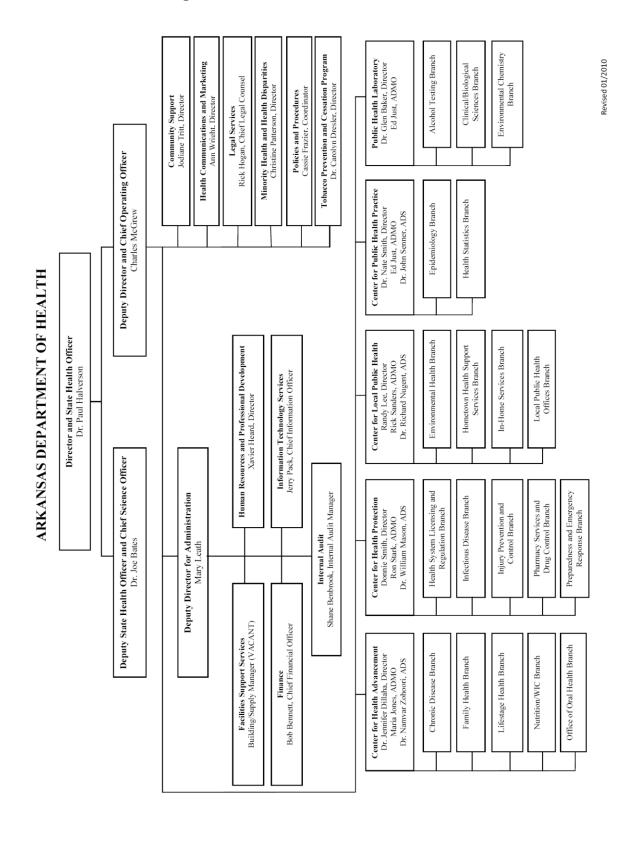
Regional Director – Confirm block grant dates/next calls
All Members –Next Meeting: September 21st | Time: 10:00 CT

For additional information on regional communications including past minutes and call schedules, go to Region VI's Sharepoint Site: <a href="http://www.amchp.org/groups/region6/default.aspx">http://www.amchp.org/groups/region6/default.aspx</a>

# Attachment O. Projection of Arkansas Population, 1990 - 2015

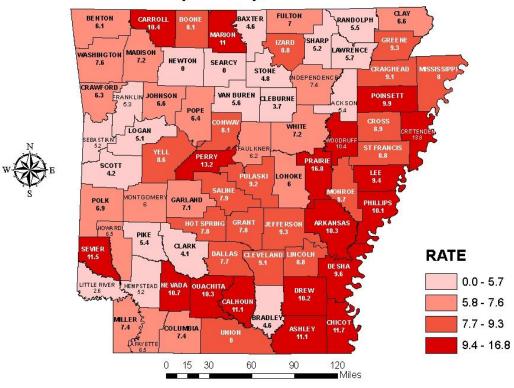


### Attachment Q. ADH Organizational Chart



### **Attachment R**

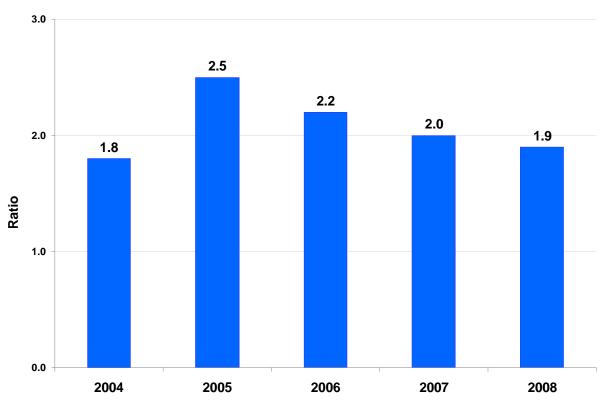
# ARKANSAS INFANT MORTALITY RATE by County, 2004-2008



Map Source: Arkansas Department of Health, Center for Public Health Practice, Health Statistics Branch

## **Attachment S**

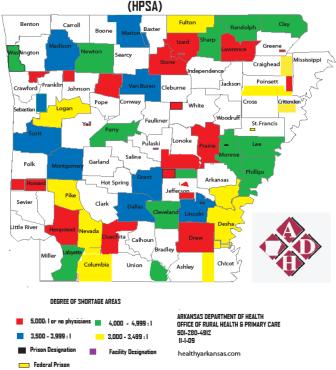
# Ratio of African American to White Infant Mortality Rate Arkansas 2004-2008



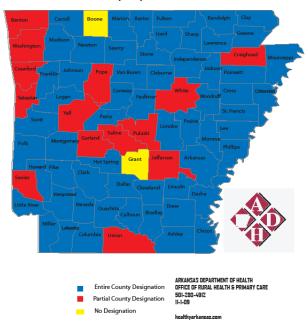
Source: Linked Birth/Infant Death Files, Health Statistics Branch, Arkansas Department of Health

### **Attachment T**

Arkansas Primary Care Health Professional Shortage Areas (HPSA)

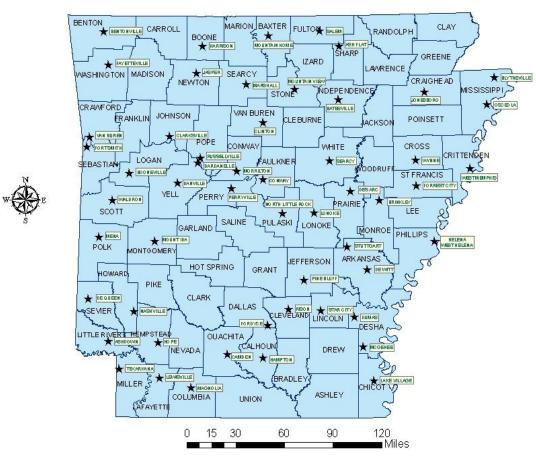


### Arkansas Medically underserved areas (MUA)



### **Attachment U**

## ARKANSAS LOCAL HEALTH UNITS OFFERING PRENATAL CARE SERVICES 2009



Source: Center for Public Health Practice, Epidemiology and Health Statistics Branches

Attachment W. Infant Mortality by County, 2004-2008\*

Attachment w. man		Infant	
County	Rate	Deaths	Births
County	11410	2000.10	2
Arkansas County	10.3	13	1,258
Ashley County	11.1	16	1,441
Baxter County	4.6	9	1,976
Benton County	6.1	97	15,849
Boone County	8.1	18	2,223
Bradley County	4.6	4	874
Calhoun County	11.1	3	271
Carroll County	10.4	18	1,725
Chicot County	11.7	11	943
Clark County	4.1	6	1,461
Clay County	6.6	6	907
Cleburne County	3.7	5	1,367
Cleveland County	9.1	5	550
Columbia County	7.4	12	1,627
Conway County	8.1	11	1,350
Craighead County	9.1	61	6,675
Crawford County	6.3	25	3,979
Crittenden County	13.8	62	4,489
Cross County	8.9	11	1,240
Dallas County	7.7	4	519
Desha County	9.6	10	1,040
Drew County	10.2	13	1,270
Faulkner County	6.2	45	7,288
Franklin County	5.3	6	1,134
Fulton County	7	4	568
Garland County	7.1	41	5,777
Grant County	7.8	8	1,031
Greene County	9.3	26	2,782
Hempstead County	5.2	9	1,736
Hot Spring County	7.8	15	1,917
Howard County	6.5	7	1,076
Independence County	7.4	18	2,446
Izard County	8.8	6	681
Jackson County	5.4	6	1,120
Jefferson County	9.3	53	5,689
Johnson County	6.6	12	1,814
Lafayette County	6.5	3	459
Lawrence County	5.7	6	1,051
Lee County	9.4	6	637

<sup>\*</sup> Produced using linked birth/infant death files

Attachment W. Infant Mortality by County, 2004-08\* (cont.)

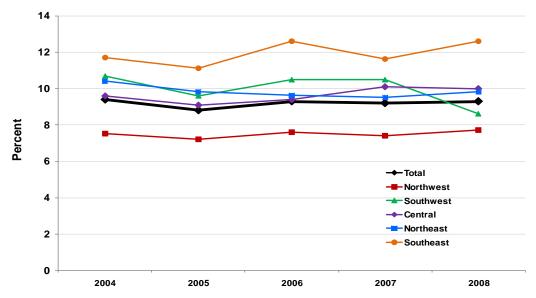
Attachment W. man		Infant	
County	Rate	Deaths	Births
Lincoln County	8.8	6	682
Little River County	2.6	2	774
Logan County	5.1	7	1,378
Lonoke County	6	27	4,479
Madison County	7.2	7	979
Marion County	11	8	730
Miller County	7.4	24	3,252
Mississippi County	8	31	3,880
Monroe County	8.7	5	577
Montgomery County	6	3	498
Nevada County	10.7	7	653
Newton County	0	0	413
Ouachita County	10.3	19	1,845
Perry County	13.2	8	604
Phillips County	10.1	20	1,990
Pike County	5.4	3	554
Poinsett County	9.9	18	1,812
Polk County	6.9	9	1,304
Pope County	6.4	26	4,083
Prairie County	16.8	8	476
Pulaski County	9.2	271	29,604
Randolph County	5.5	6	1,085
St. Francis County	8.8	18	2,054
Saline County	7.9	44	5,584
Scott County	4.2	3	713
Searcy County	0	0	450
Sebastian County	5.2	49	9,432
Sevier County	11.5	18	1,564
Sharp County	5.2	5	961
Stone County	4.8	3	623
Union County	8	24	2,995
Van Buren County	5.6	5	885
Washington County	7.6	125	16,390
White County	7.2	36	5,022
Woodruff County	10.4	5	482
Yell County	8.6	15	1,743
STATE Total	7.7	1,556	200,790

<sup>\*</sup> Produced using linked birth/infant death files

Source: ADH Health Statistics Branch

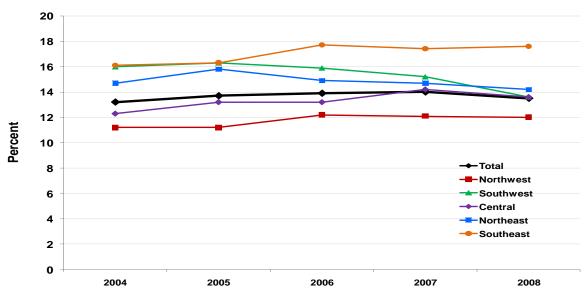
## **Attachment X**

# Low Birth Weight (<2500 Grams) Births by ADH Public Health Region, Arkansas 2004-2008



Source: Birth Certificate Files, Health Statistics Branch, Arkansas Department of Health

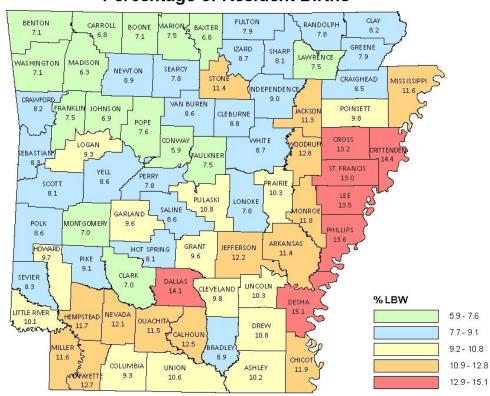
# Preterm Births (<37 Weeks Gestation) by ADH Public Health Region, Arkansas 2004-2008



Source: Birth Certificate Files, Health Statistics Branch, Arkansas Department of Health

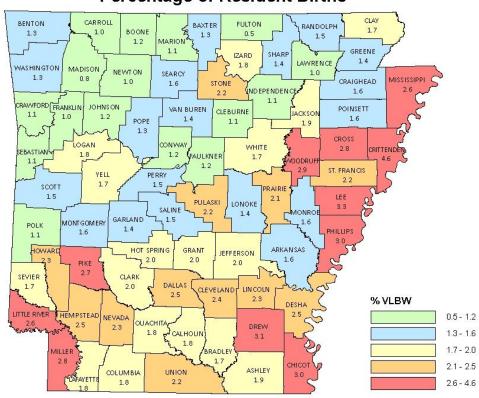
### **Attachment Y**

# Low Birthweight Births by County 2004 - 2008 Percentage of Resident Births

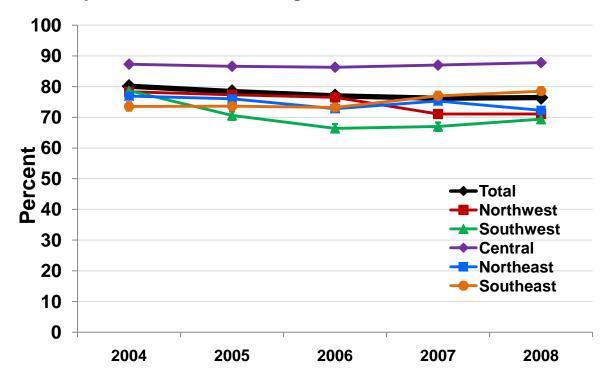


### **Attachment Z**

# Very Low Birthweight Births by County 2004 - 2008 Percentage of Resident Births

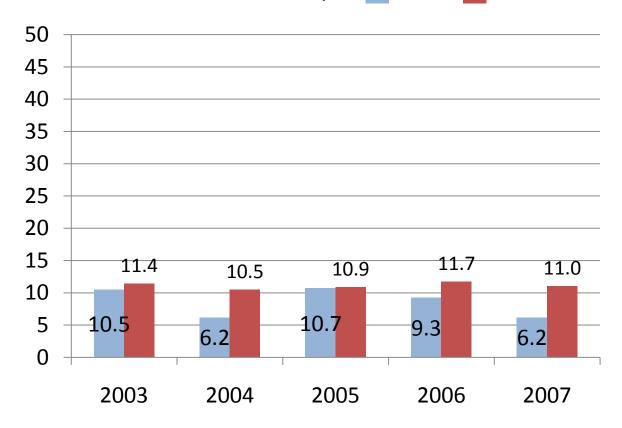


Attachment AA. Births with First Trimester Prenatal Care by ADH Public Health Region, Arkansas 2004-2008



Source: Birth Certificate Files, Health Statistics Branch, Arkansas Department of Health

Attachment BB. Percent of Children with No Health Insurance, AR and US



Source: US Census Bureau, 2000-2007 Annual Social and Economic Supplement of the Current Population Survey

## Attachment CC. Child Health Population, Poverty, and Medicaid Coverage by County

			0-17 <200%	ARKids A/B FY09	<del>, ,</del>
County	Tot. 0-18 <sup>a</sup>	Tot. 0-17 <sup>a</sup>	FPL <sup>a</sup>	0-18 <sup>b</sup>	%0-18 enrolled
Arkansas	4,755	3,678	2,726	2,239	47.1%
Ashley	5,630	5,304	3,308	2,923	51.9%
Baxter	8,230	7,802	3,378	3,371	41.0%
Benton	58,062	55,420	16,442	17,228	29.7%
Boone	8,682	8,243	3,868	3,523	40.6%
Bradley	2,838	2,687	1,805	1,466	51.7%
Calhoun	1,191	1,113	715	511	42.9%
Carroll	6,573	6,237	3,557	2,994	45.5%
Chicot	3,139	2,958	2,603	1,738	55.4%
Clark	5,849	5,369	2,288	2,120	36.2%
Clay	3,670	3,460	2,115	3,507	95.6%
Cleburne	5,362	5,073	2,534	2,487	46.4%
Cleveland	2,167	2,055	1,019	880	40.6%
Columbia	6,066	5,639	3,371	2,525	41.6%
Conway	5,176	4,900	2,480	2,354	45.5%
Craighead	24,332	22,904	8,967	10,028	41.2%
Crawford	16,046	15,208	7,334	6,579	41.0%
Crittenden	16,404	15,573	9,402	3,842	23.4%
Cross	4,856	4,578	2,972	2,243	46.2%
Dallas	2,035	1,910	1,281	914	44.9%
Desha	3,786	3,570	2,860	1,988	52.5%
Drew	4,901	4,573	2,386	2,120	43.3%
Faulkner	29,177	27,133	7,560	8,654	29.7%
Franklin	4,448	4,193	2,284	1,952	43.9%
Fulton	2,531	2,388	1,485	1,167	46.1%
Garland	21,728	20,616	9,562	10,258	47.2%
Grant	4,223	3,984	1,576	1,505	35.6%
Greene	10,429	9,914	4,261	4,658	44.7%
Hempstead	6,183	5,855	3,616	3,062	49.5%
Hot Spring	7,626	7,205	3,696	3,763	49.3%
Howard	3,682	3,490	2,004	1,776	48.2%
Independence	8,451	8,011	3,709	3,895	46.1%
Izard	2,744	2,587	1,552	1,371	50.0%
Jackson	4,033	3,752	2,240	1,966	48.7%
Jefferson	21,054	19,784	12,048	8,749	41.6%
Johnson	6,527	6,206	3,095	3,371	51.6%
Lafayette	1,787	1,679	1,267	869	48.6%
Lawrence	4,050	3,809	2,232	2,119	52.3%
Lee	2,399	2,250	2,377	1,263	52.6%

Attachment CC. Child Health Population, Poverty, and Medicaid Coverage by County cont.

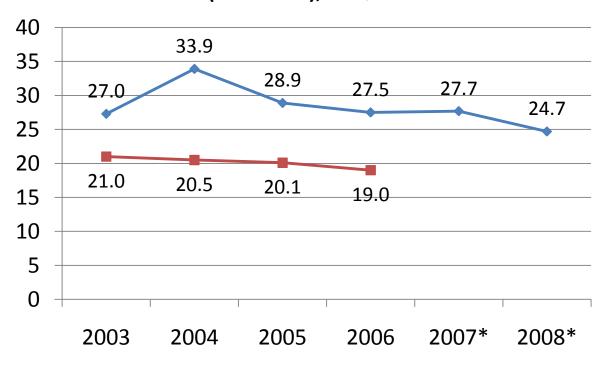
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		<b>-</b> . 0 . <b>-</b> 3	0-17 <200%	ARKids A/B FY09,	2/2 /2 !! !!
County	Tot. 0-18 <sup>a</sup>	Tot. 0-17 <sup>a</sup>	FPL <sup>a</sup>	0-18 <sup>b</sup>	%0-18 enrolled
Lincoln	2,752	2,563	1,701	1,336	48.5%
Little River	2,937	2,781	1,724	1,292	44.0%
Logan	5,612	5,316	3,188	2,690	47.9%
Lonoke	17,353	16,481	5,543	6,053	34.9%
Madison	3,813	3,613	2,177	1,849	48.5%
Marion	3,299	3,098	2,050	1,566	47.5%
Miller	11,204	10,618	5,830	4,297	38.4%
Mississippi	13,838	13,143	9,067	6,383	46.1%
Monroe	2,152	2,035	1,896	1,137	52.8%
Montgomery	2,035	1,925	1,081	1,135	55.8%
Nevada	2,285	2,157	1,330	1,115	48.8%
Newton	1,795	1,690	1,269	983	54.8%
Ouachita	6,417	6,051	3,856	3,122	48.7%
Perry	2,542	2,401	1,202	1,101	43.3%
Phillips	6,956	6,586	6,190	3,798	54.6%
Pike	2,514	2,375	1,449	1,453	57.8%
Poinsett	6,518	6,158	3,942	3,537	54.3%
Polk	4,994	4,738	2,786	2,593	51.9%
Pope	15,517	14,473	6,472	6,217	40.1%
Prairie	1,886	1,789	1,185	889	47.1%
Pulaski	100,448	95,638	39,499	36,304	36.1%
Randolph	4,219	3,978	2,221	2,268	53.8%
Saline	23,620	22,376	6,464	7,952	33.7%
Scott	2,920	2,770	1,633	1,544	52.9%
Searcy	1,737	1,642	1,244	1,049	60.4%
Sebastian	33,209	31,667	13,715	13,141	39.6%
Sevier	4,885	4,667	2,690	2,759	56.5%
Sharp	3,859	3,654	2,263	2,162	56.0%
St. Francis	7,389	7,002	5466	3,600	48.7%
Stone	2,533	2,391	1,514	1,517	59.9%
Union	10,849	10,248	5,944	5,252	48.4%
Van Buren	3,521	3,336	1,987	1,848	52.5%
Washington	54,991	52,040	17,205	18,357	33.4%
White	18,901	17,698	7,802	7,855	41.6%
Woodruff	1,870	1,770	1,496	923	49.4%
Yell	5,822	5,533	2,872	3,048	52.4%
STATE	738,014	679,511	329,928	300,103	40.7%

<sup>&</sup>lt;sup>a</sup> Source: UALR Institute for Economic Advancement; 2008 estimates

<sup>&</sup>lt;sup>b</sup> Source: Arkansas Advocates for Children and Families; average monthly enrollments

<sup>&</sup>lt;sup>c</sup> Avg. monthly enrollment divided by total 0-18 population

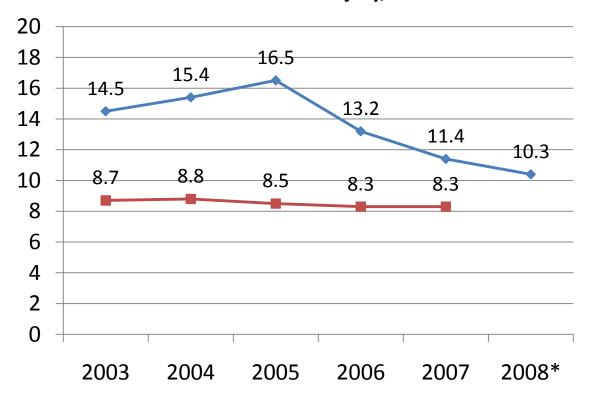
# Attachment DD. Death Rate per 100,000 Children 0-14 (All Causes), AR and US



\* Provisional data

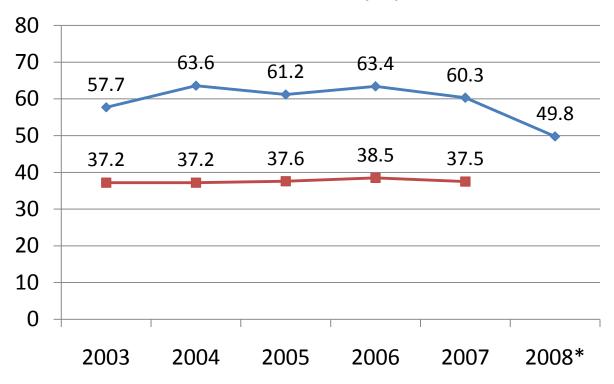
Source: ADH Health Statistics Branch, CDC Wonder

# Attachment EE. Death Rate per 100,000 Children 0-14 due to Unintentional Injury, AR ◆ and US ■



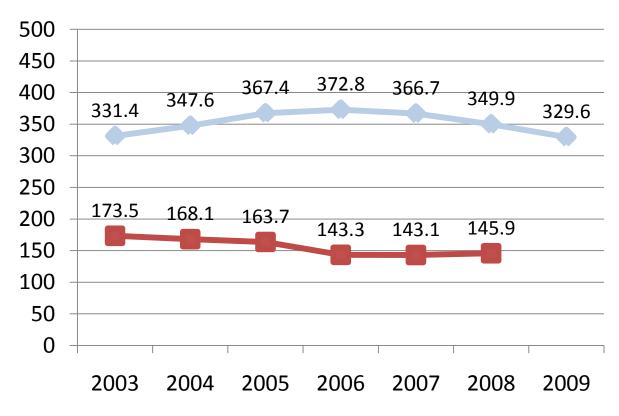
\* Provisional data

# Attachment FF. Death Rate per 100,000 Youth 15-24 due to Unintentional Injury, AR and US

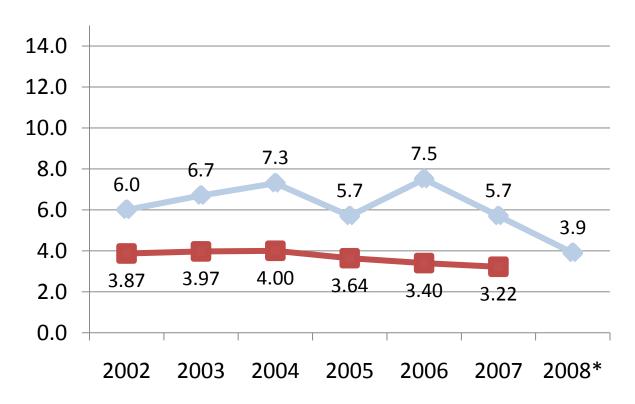


<sup>\*</sup> Provisional data

# Attachment GG. Rate of Unintentional Nonfatal Injury Requiring Hospitalization, per 100,000 Children 0-14 yrs, AR and US

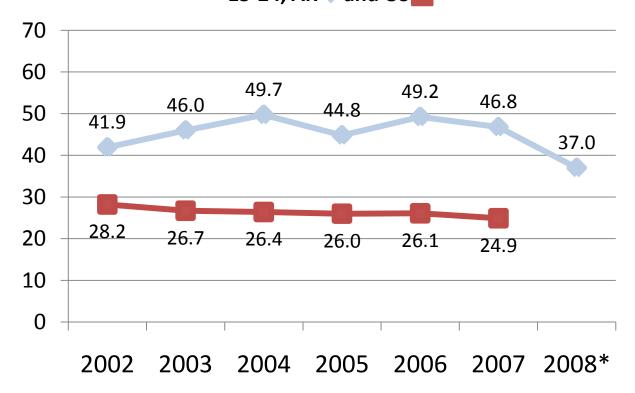


# Attachment HH. Death Rate per 100,000 Children 0-14 due to Motor Vehicle Crashes, AR ◆ and US ■



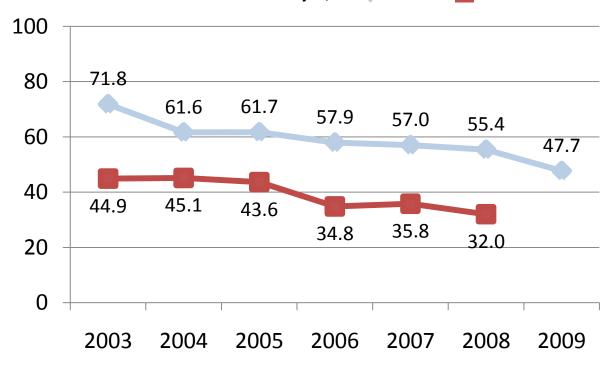
<sup>\*</sup> Provisional data

# Attachment II. Death Rate due to Motor Vehicle Crashes per 100,000 Youth Aged 15-24, AR and US



<sup>\*</sup> Provisional data

Attachment JJ. Rate of Nonfatal injury due to Motor Vehicle Crashes Requiring Hospitalization, per 100,000 Children 0-14 yrs, AR and US



Attachment KK. Child Hospitalizations for Asthma and Unintentional Injury, by County

				Unintentional
	Hospitalizations	Asthma hospit.	Hospitalizations for	injury hospit.
	for asthma, 0-21	rate/10,000	unintentional injuries,	rate/10,000 0-24
County	year olds, 2008	0-21 year olds	0-24 year olds, 2008	year olds
Arkansas	6	11.3	42	71.0
Ashley	16	25.3	24	33.8
Baxter	17	18.5	59	55.6
Benton	40	5.9	268	35.3
Boone	11	11.2	43	39.0
Bradley	3	9.2	17	45.6
Calhoun	2	15.5	10	68.0
Carroll	3	4.1	25	30.6
Chicot	5	14.6	16	40.8
Clark	3	3.6	37	38.0
Clay	0	0.0	7	15.7
Cleburne	2	3.3	30	43.6
Cleveland	2	8.4	12	44.2
Columbia	9	12.2	38	44.4
Conway	2	3.4	52	78.5
Craighead	31	10.6	144	42.9
Crawford	4	2.2	75	36.7
Crittenden	1	0.5	21	10.3
Cross	9	16.5	25	40.6
Dallas	4	17.7	7	27.6
Desha	9	21.7	21	45.4
Drew	14	23.9	42	61.7
Faulkner	13	3.6	178	42.4
Franklin	1	2.0	37	64.7
Fulton	5	17.7	10	30.9
Garland	27	10.9	176	62.8
Grant	11	22.8	33	60.6
Greene	6	5.1	64	48.6
Hempstead	6	8.7	31	40.0
Hot Spring	16	18.4	61	61.5
Howard	0	0.0	12	25.7
Independence	10	10.3	90	82.5
Izard	2	6.3	29	79.6
Jackson	4	8.1	36	62.8
Jefferson	34	14.0	161	58.3
Johnson	4	5.4	38	45.6
Lafayette	1	5.0	6	26.2
Lawrence	1	2.1	31	57.8

Attachment KK. Child Hospitalizations for Asthma and Unintentional Injury, by County (cont.)

Attachment Kr	Hospitalizations	Asthma hospit.	Hospitalizations for	Unint. inj. hospit.
	for asthma, 0-21	rate/10,000	unintentional injuries,	rate/10,000 0-24
Country	year olds, 2008	0-21 year olds	0-24 year olds, 2008	year olds
County	9	31.9	8	23.3
Lee	2	6.0	13	31.9
Lincoln	2	6.0	13	34.0
Little River	4	6.4	35	49.5
Logan Lonoke	10	5.0	148	65.1
	0	0.0	31	62.8
Madison Marion	3	8.0	20	46.4
Miller	1	0.8	29	20.1
	46	29.7	43	25.0
Mississippi	1	4.4	13	50.2
Monroe	0	0.0	21	80.2
Montgomery Nevada	2	7.9	13	45.0
Newton	4	20.0	9	39.3
Ouachita	6	8.4	34	42.3
Perry	2	7.1	25	79.0
Phillips	37	48.9	33	39.2
Pike	2	7.2	18	57.0
Poinsett	6	8.2	47	58.0
Polk	3	5.3	40	63.1
Pope	10	5.3	79	36.5
Prairie	2	9.7	14	59.6
Pulaski	105	9.1	667	51.7
Randolph	2	4.2	16	29.4
Saline	20	7.3	169	54.0
Scott	2	6.2	20	56.1
Searcy	0	0.0	10	44.2
Sebastian	26	6.9	172	41.2
Sevier	1	1.8	17	27.6
Sharp	2	4.7	43	88.3
St. Francis	10	12.5	19	21.0
Stone	5	17.3	30	91.7
Union	8	6.6	81	59.2
Van Buren	3	7.6	33	73.0
Washington	43	6.4	305	39.7
White	17	7.3	153	57.6
Woodruff	3	15.1	9	41.0
Yell	2	3.0	57	76.6
STATE	735	8.6	4495	46.5

Source: ADH Health Statistics Branch

Attachment LL. Arkansas Childhood Key Injury Deaths by Race, 2002-2006 (Aggregate)

Unintentional Injury Deaths, 0-21 Year Olds				
Race	# Deaths	Total Population	Crude Rate/100,000	
White	1,000	3,193,466	31.31	
Black	210	872,180	24.08	
Am Indian/AK Indian	6*	41,852	14.34*	
Asian/Pac Islander	11*	49,001	22.45*	
Total	1,227	4,156,499	29.52	
Unin	tentional Motor Vehicle	Traffic Deaths, 0-21 Year	r Olds	
Race	# Deaths	Total Population	Crude Rate/100,000	
White	696	3,193,466	21.79	
Black	113	872,180	12.96	
Am Indian/AK Indian	4*	41,852	9.56*	
Asian/Pac Islander	9*	49,001	18.37*	
Total	822	4,156,499	19.78	
Unint	entional Residential Fire	/Flame Deaths, 0-21 Yea	ır Olds	
Race	# Deaths	Total Population	Crude Rate/100,000	
White	39	3,193,466	1.22	
Black	21	872,180	2.41	
Am Indian/AK Indian	1*	41,852	2.39*	
Asian/Pac Islander	0	49,001	0.00*	
Total	61	4,156,499	1.47	
	<b>Unintentional Drowning</b>	g Deaths, 0-21 Year Olds		
Race	# Deaths	Total Population	Crude Rate/100,000	
White	64	3,193,466	2.00	
Black	26	872,180	2.98	
Am Indian/AK Indian	0*	41,852	0.00*	
Asian/Pac Islander	2*	49,001	4.08*	
Total	92	4,156,499	2.21	
Unintentional Firearm Deaths, 0-21 Year Olds				
Race	# Deaths	Total Population	Crude Rate/100,000	
White	20*	3,193,466	0.63*	
Black	2*	872,180	0.23*	
Am Indian/AK Indian	1*	41,852	2.39*	
Asian/Pac Islander	0*	49,001	0.00*	
Total	23	4,156,499	0.55	

<sup>\*</sup>Small numbers; rates may be unstable.

Source: Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Webbased Injury Statistics Query and Reporting System (WISQARS) [online] Available from www.cdc.gov/ncipc/wisqars

Attachment LL. Arkansas Childhood Key Injury Deaths by Race, 2002-2006 Aggregate (cont.)

			00 0 1			
	Unintentional Poisoning Deaths, 0-21 Year Olds					
Race	# Deaths	Total Population	Crude Rate/100,000			
White	38	3,193,466	1.19			
Black	7*	872,180	0.80*			
Am Indian/AK Indian	0*	41,852	0.00*			
Asian/Pac Islander	0*	49,001	0.00*			
Total	45	4,156,499	1.08			
	Homicide Injury De	aths, 0-21 Year Olds				
Race	# Deaths	Total Population	Crude Rate/100,000			
White	74	3,193,466	2.32			
Black	139	872,180	15.94			
Am Indian/AK Indian	1*	41,852	2.39*			
Asian/Pac Islander	1*	49,001	2.04*			
Total	215	4,156,499	5.17			
	Homicide Firearm De	eaths, 0-21 Year Olds				
Race	# Deaths	Total Population	Crude Rate/100,000			
White	34	3,193,466	1.06			
Black	95	872,180	10.89			
Am Indian/AK Indian	0*	41,852	0.00*			
Asian/Pac Islander	1*	49,001	2.04*			
Total	130	4,156,499	3.13			
	Suicide Deaths,	10-21 Year Olds				
Race	# Deaths	Total Population	Crude Rate/100,000			
White	138	1,758,568	7.85			
Black	18*	487,636	3.69*			
Am Indian/AK Indian	1*	22,276	4.49*			
Asian/Pac Islander	1*	24,365	4.10*			
Total	158	2,292,845	6.89			

<sup>\*</sup>Small numbers; rates may be unstable.

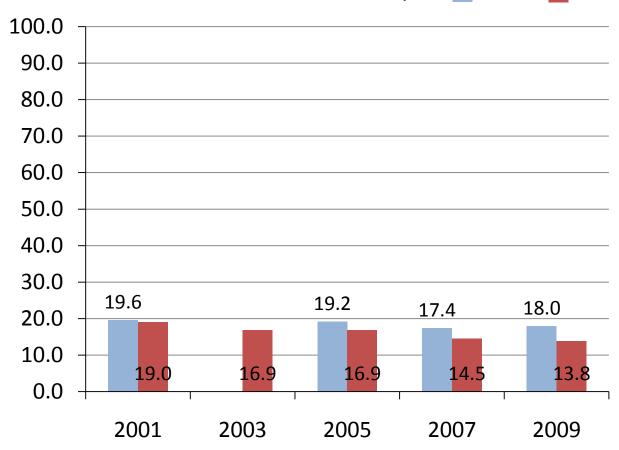
Source: Centers for Disease Control and Prevention, National Centers for Injury Prevention and Control. Webbased Injury Statistics Query and Reporting System (WISQARS) [online] Available from <a href="https://www.cdc.gov/ncipc/wisqars">www.cdc.gov/ncipc/wisqars</a>

Attachment MM. Arkansas Childhood Key Morbidities by Race/Ethnicity, 2008

Hospitalizations for Unintentional Injury, 0-21 Year Olds					
Race	# Hospitalizations	Total Population	Rate/10,000		
White (NH)	2594	586,772	44.2		
Black (NH)	690	173,215	39.8		
Other	279	19,953	139.8		
Hispanic	185	73,705	25.1		
Total	3,748	853,645	43.9		
Hosp	italizations for Motor Ve	ehicle Crashes, 0-21 Year	Olds		
Race	# Hospitalizations	Total Population	Rate/10,000		
White (NH)	515	586,772	8.8		
Black (NH)	99	173,215	5.7		
Other	13	19,953	6.5		
Hispanic	22	73,705	3.0		
Total	649	853,645	7.6		
	Hospitalizations for A	sthma, 0-21 Year Olds			
Race	# Hospitalizations	Total Population	Rate/10,000		
White (NH)	400	586,772	6.8		
Black (NH)	289	173,215	16.7		
Other	17	19,953	8.5		
Hispanic	29	73,705	3.9		
Total	735	853,645	8.6		
Obesity	y and Overweight, Schoo	l-Age (grades K-10, 2008	3-09 SY)		
Race	% Overweight	% Obese	Total Overwt/Obese		
White	16.8%	18.6%	35.4%		
Black	17.6%	23.6%	41.2%		
Asian	15.4%	14.0%	29.4%		
Native American	19.6%	22.4%	42.0%		
Hispanic	19.6%	27.3%	46.9%		
Total	17.2%	20.4%	37.6%		

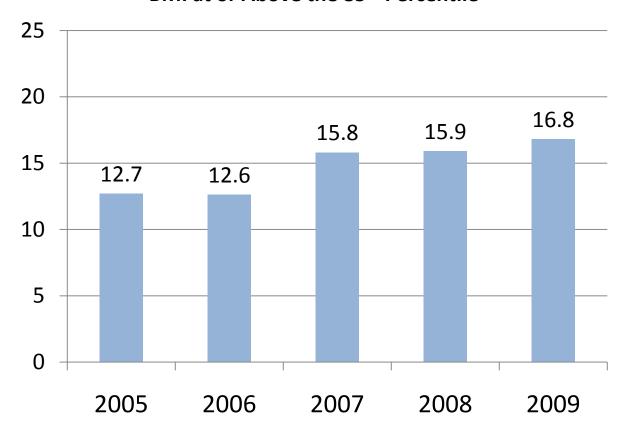
Source: ADH Health Statistics Branch; obesity data from Arkansas Center for Health Improvement

Attachment NN. % HS Students Who Seriously
Considered Suicide Past 12 Months, AR and US



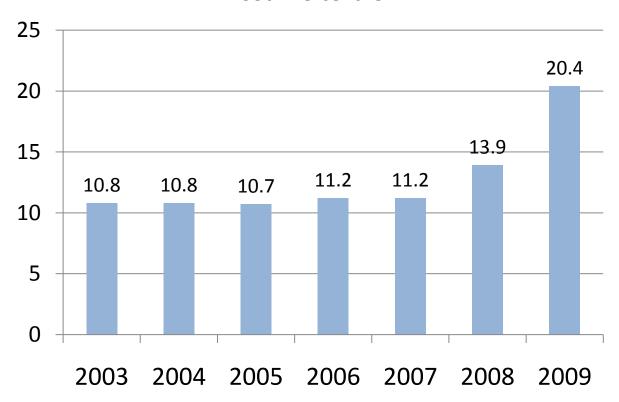
Source: Youth Risk Behavior Survey (ADE, CDC)

Attachment OO. % WIC Children 2-5 years with BMI at or Above the 85<sup>th</sup> Percentile



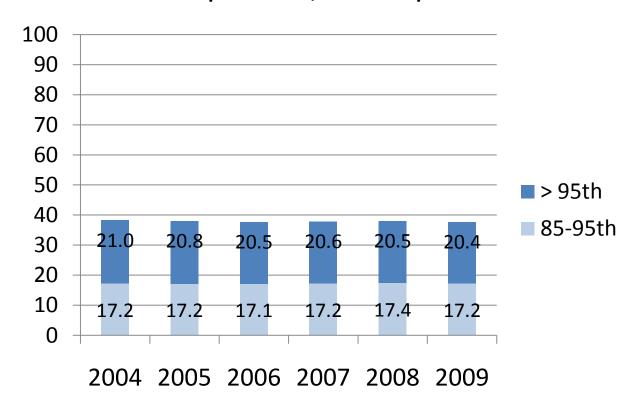
Source: ADH WIC Program

Attachment PP. % WIC Children with Wt/Hgt > 95th Percentile



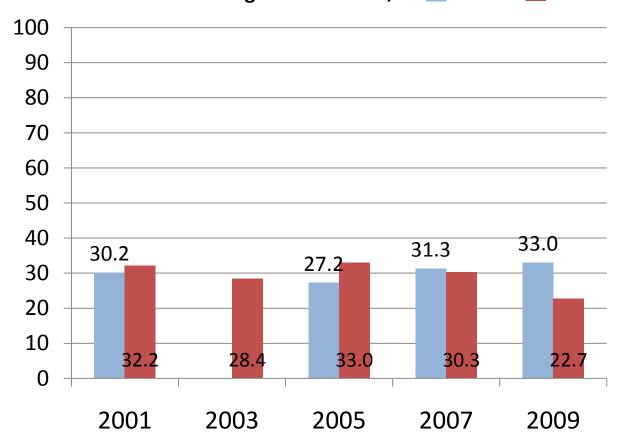
Source: ADH WIC Program; CDC PEDNSS Report

# Attachment QQ. % Public School Students with BMI 85-95<sup>th</sup> percentiles, and >95<sup>th</sup> percentile



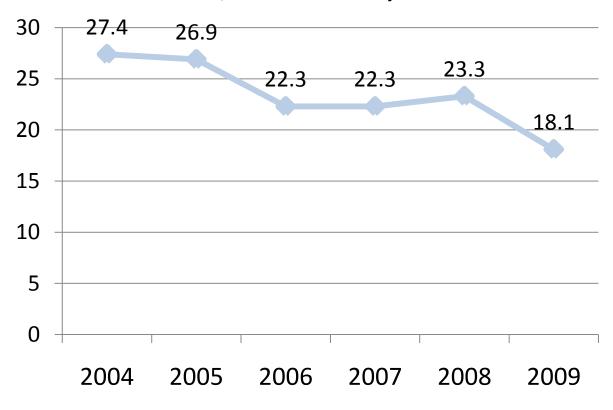
Source: Arkansas Center for Health Improvement

Attachment RR. % HS Students Who Attended Daily PE Classes in Avg. School Week, AR and US



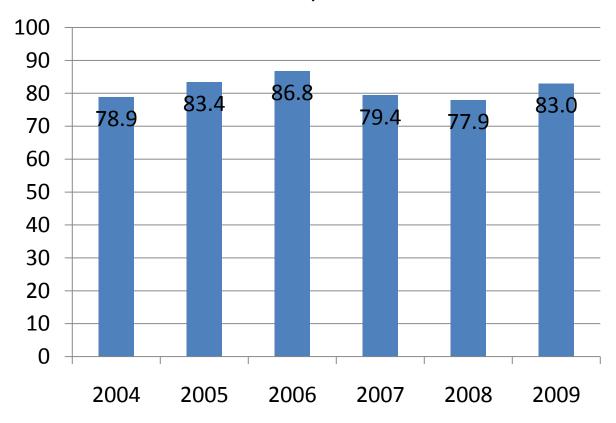
Source: Youth Risk Behavior Survey (ADE, CDC)

Attachment SS. Asthma Hospitalization Rates per 10,000 Children 0-5 years



Source: ADH Health Statistics Branch

Attachment TT. % Two Year Olds Fully Immunized, Arkansas



Source: Vaccines for Children Program Co-CASA

## Attachment UU. Immunization Coverage and Obesity/Overweight Rates, by County

	. Illimanization coverage t	ina obesity, over weig	grit mates, by county
	% 24 mos old fully	School-age % Obese	% Obese & Overweight
County	immunized 2008 <sup>a</sup>	2009 <sup>b</sup>	2009 <sup>b</sup>
Arkansas	80.15%	24.62%	41.92%
Ashley	100.00%	23.00%	39.99%
Baxter	81.68%	19.00%	36.85%
Benton	65.02%	16.93%	33.36%
Boone	75.74%	18.13%	35.21%
Bradley	82.26%	28.22%	47.76%
Calhoun	95.56%	26.40%	44.00%
Carroll	73.63%	22.96%	40.08%
Chicot	78.57%	25.92%	42.70%
Clark	72.86%	24.67%	41.65%
Clay	84.11%	28.68%	44.30%
Cleburne	82.95%	18.15%	34.18%
Cleveland	83.72%	25.38%	40.79%
Columbia	76.09%	21.31%	38.58%
Conway	75.70%	26.79%	45.33%
Craighead	85.86%	20.02%	36.48%
Crawford	76.87%	17.65%	32.91%
Crittenden	75.00%	22.42%	39.85%
Cross	83.93%	24.62%	41.56%
Dallas	95.83%	24.78%	43.98%
Desha	86.05%	24.40%	42.72%
Drew	85.11%	21.96%	40.85%
Faulkner	80.74%	17.66%	34.17%
Franklin	88.10%	19.68%	36.49%
Fulton	97.92%	23.47%	42.55%
Garland	79.90%	18.24%	35.10%
Grant	67.62%	17.59%	34.46%
Greene	75.61%	22.97%	41.40%
Hempstead	77.78%	24.92%	41.18%
Hot Spring	64.34%	22.15%	39.70%
Howard	97.73%	21.38%	40.36%
Independence	93.94%	21.01%	38.62%
Izard	100.00%	22.90%	39.67%
Jackson	85.45%	24.34%	43.79%
Jefferson	64.00%	22.80%	40.34%
Johnson	86.23%	23.23%	40.86%
Lafayette	95.00%	21.37%	40.60%
Lawrence	87.29%	25.22%	45.18%
Lee	90.70%	31.57%	51.22%

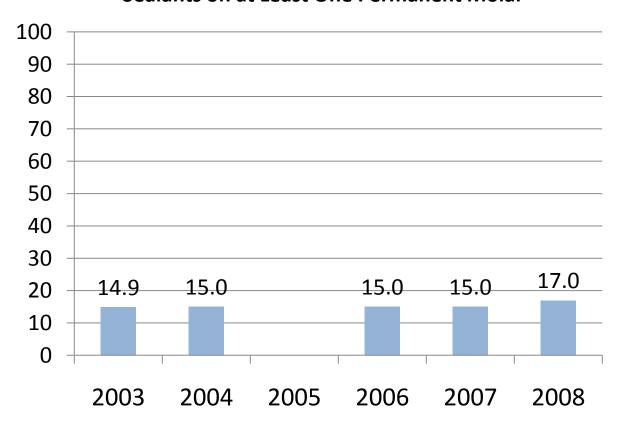
Attachment UU. Immun. Coverage and Obesity/Overweight Rates, by County (cont.)

County	% 24 mos old fully	School-age % Obese	% Obese & Overweight
· ·		2008 <sup>b</sup>	2008 <sup>b</sup>
	immunized 2008 <sup>a</sup>		
Lincoln	90.38%	26.32%	44.08%
Little River	93.18%	21.07%	41.63%
Logan	90.70%	19.34%	35.09%
Lonoke	68.03%	18.39%	35.11%
Madison	72.00%	15.48%	31.11%
Marion	89.47%	19.70%	37.19%
Miller	76.47%	21.45%	39.40%
Mississippi	91.72%	23.91%	41.49%
Monroe	84.21%	25.10%	40.86%
Montgomery	95.00%	19.66%	41.02%
Nevada	93.48%	19.41%	39.73%
Newton	97.67%	19.31%	36.66%
Ouachita	91.95%	24.65%	42.55%
Perry	95.00%	21.12%	36.06%
Phillips	65.00%	29.84%	46.87%
Pike	93.48%	17.81%	34.51%
Poinsett	79.00%	25.57%	43.62%
Polk	77.08%	18.05%	34.90%
Pope	62.77%	21.29%	39.77%
Prairie	86.54%	24.28%	41.56%
Pulaski	65.09%	19.05%	36.15%
Randolph	80.18%	22.55%	41.50%
Saline	81.12%	17.96%	34.37%
Scott	77.91%	19.42%	38.68%
Searcy	72.00%	23.94%	41.32%
Sebastian	76.71%	18.64%	35.47%
Sevier	65.91%	26.07%	44.65%
Sharp	100.00%	21.98%	39.33%
St. Francis	75.79%	21.98%	41.21%
Stone	86.67%	20.24%	37.13%
Union	85.71%	23.76%	41.84%
Van Buren	82.84%	16.67%	35.12%
Washington	60.86%	17.22%	34.23%
White	82.71%	21.72%	40.03%
Woodruff	78.85%	28.40%	45.35%
Yell	80.23%	23.05%	40.21%
STATE	77.91%	20.4%	37.6%

<sup>a</sup> Source: ADH CD/Immunizations Section

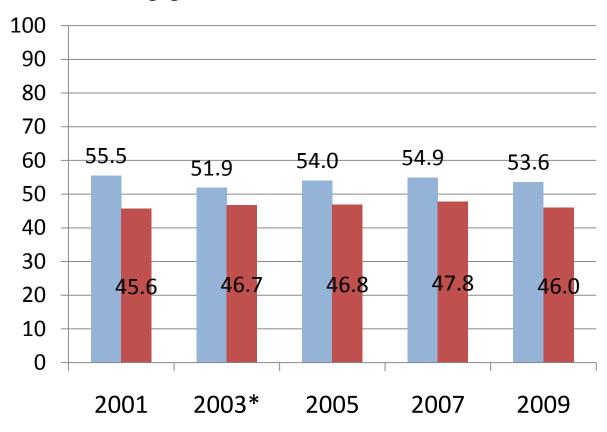
<sup>&</sup>lt;sup>b</sup> Source: Arkansas Center for Health Improvement

# Attachment VV. % of Third Graders Who Received Sealants on at Least One Permanent Molar



Source: ADH Office of Oral Health

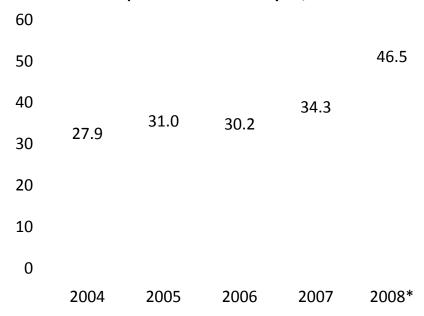
Attachment WW. % High School Students Who Have Engaged in Sexual Intercourse, AR and US



Source: Youth Risk Behavior Survey (ADE, CDC)

<sup>\*</sup>Arkansas data for 2003 are unweighted

# Attachment XX. Rates per 1,000 Women 15-19 with a Reported Case of Chlamydia, 2004-2008



### \* Provisional data

Source: ADH HIV/STD Section; pop. estimates from UALR Institute for Economic Advancement

Attachment YY. Chlamydia Positivity Among Age 15-19 Females, by County

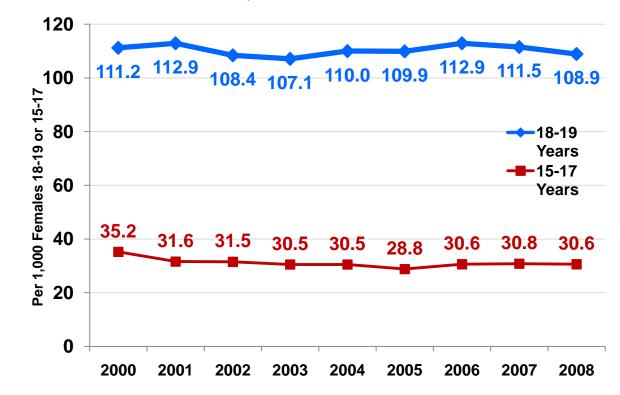
Attacilinent iii.	Cilialityula Positivity Alliong A	ge 13-13 remaies, by county
	Chlamydia positive age 15-19	% 15-19 females positive for
County	females, ADH clinics, 2009	Chlamydia, ADH clinics, 2009
Arkansas	24	17.4
Ashley	41	16.5
Baxter	7	4.3
Benton	40	10.5
Boone	14	8.1
Bradley	8	11.6
Calhoun	3	8.8
Carroll	4	4.1
Chicot	19	23.8
Clark	32	18.8
Clay	7	17.5
Cleburne	8	6.3
Cleveland	2	4.2
Columbia	67	20.4
Conway	11	11.2
Craighead	91	19.2
Crawford	16	9.5
Crittenden	145	30.3
Cross	27	19.3
Dallas	23	24.5
Desha	29	16.6
Drew	20	20.8
Faulkner	55	17.8
Franklin	6	5.1
Fulton	4	7.0
Garland	33	14.7
Grant	2	2.7
Greene	26	15.9
Hempstead	60	16.8
Hot Spring	20	13.1
Howard	35	16.0
Independence	23	10.0
Izard	0	0.0
Jackson	3	3.2
Jefferson	109	26.7
Johnson	14	7.0
Lafayette	16	22.2
Lawrence	7	8.3
Lee	18	17.1
Lincoln	12	13.3
LITICUIII	12	13.3

Attachment YY. Chlamydia Positivity Among 15-19 Females, by County (cont)

County         females, ADH clinics, 2009         Chlamydia, ADH clinics, 2009           Little River         18         17.4           Logan         16         8.7           Lonoke         32         15.6           Madison         4         4.5           Marion         2         2.4           Miller         80         20.1           Mississippi         100         20.5           Monroe         15         17.6           Montgomery         4         5.8           Nevada         16         13.7           Newton         2         4.2           Ouachita         38         21.0           Perry         3         6.4           Phillips         37         20.8           Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Saline         27         12.6           Scott         9         8.3           Searcy		Chlamydia positive age 15-19	% 15-19 females positive for
Little River         18         17.4           Logan         16         8.7           Lonoke         32         15.6           Madison         4         4.5           Marion         2         2.4           Miller         80         20.1           Mississippi         100         20.5           Monroce         15         17.6           Montgomery         4         5.8           Nevada         16         13.7           Newton         2         4.2           Ouachita         38         21.0           Perry         3         6.4           Phillips         37         20.8           Pilke         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0			·
Logan 16 8.7  Lonoke 32 15.6  Madison 4 4.5  Marion 2 2.4  Miller 80 20.1  Mississippi 100 20.5  Monroe 15 17.6  Motgomery 4 5.8  Nevada 16 13.7  Newton 2 4.2  Ouachita 38 21.0  Perry 3 6.4  Phillips 37 20.8  Pike 7 8.6  Poinsett 19 9.6  Polk 10 8.1  Pope 46 11.8  Prairie 13 30.2  Pulaski 178 20.7  Randolph 5 7.2  Saline 27 12.6  Scott 9 8.3  Searcy 1 1 2.0  Sebastian 73 15.0  Sevier 20 9.8  Sharp 10 9.5  St. Francis 9 15.8  Stone 2 3.3  Union 49 18.4  Van Buren 1 1.1  Washington 58 14.9  White 29 11.0  Woodruff 2 2 2.5.0  Willer 10 15.6  Marion 42.1  Woodruff 2 2 25.0  Yell 6 5.8	-		
Madison			
Madison         4         4.5           Marion         2         2.4           Miller         80         20.1           Mississippi         100         20.5           Monroe         15         17.6           Montgomery         4         5.8           Nevada         16         13.7           Newton         2         4.2           Ouachita         38         21.0           Perry         3         6.4           Phillips         37         20.8           Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5			
Marion         2         2.4           Miller         80         20.1           Mississippi         100         20.5           Monroe         15         17.6           Montgomery         4         5.8           Nevada         16         13.7           Newton         2         4.2           Ouachita         38         21.0           Perry         3         6.4           Phillips         37         20.8           Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8      <			
Miller 80 20.1  Mississippi 100 20.5  Monroe 15 17.6  Montgomery 4 5.8  Nevada 16 13.7  Newton 2 4.2  Ouachita 38 21.0  Perry 3 6.4  Phillips 37 20.8  Pike 7 8.6  Poinsett 19 9.6  Polk 10 8.1  Pope 46 11.8  Prairie 13 30.2  Pulaski 178 20.7  Randolph 5 7.2  Saline 27 12.6  Scott 9 8.3  Searcy 1 20.  Sebastian 73 15.0  Sevier 20 9.8  Sharp 10 9.5  St. Francis 9 15.8  Stone 2 3.3  Union 49 18.4  Van Buren 1 1.1  Washington 58 14.9  White 29 11.0  Woodruff 2 2 25.0  Vell (10 13.7)  Mississippi 10 20.5  Montgo			
Mississippi         100         20.5           Monroe         15         17.6           Montgomery         4         5.8           Nevada         16         13.7           Newton         2         4.2           Ouachita         38         21.0           Perry         3         6.4           Phillips         37         20.8           Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4 <tr< td=""><td></td><td></td><td></td></tr<>			
Monroe 15 17.6  Montgomery 4 5.8  Nevada 16 13.7  Newton 2 4.2  Ouachita 38 21.0  Perry 3 6.4  Phillips 37 20.8  Pike 7 8.6  Poinsett 19 9.6  Polk 10 8.1  Pope 46 11.8  Prairie 13 30.2  Pulaski 178 20.7  Randolph 5 7.2  Saline 27 12.6  Scott 9 8.3  Searcy 1 2.0  Sebastian 73 15.0  Sevier 20 9.8  Sharp 10 9.5  St. Francis 9 15.8  Stone 2 3.3  Union 49 18.4  Van Buren 1 1.1  Washington 58 14.9  White 29 11.0  Woodruff 2 25.0  Yell 6 5.8	Miller		
Montgomery         4         5.8           Nevada         16         13.7           Newton         2         4.2           Ouachita         38         21.0           Perry         3         6.4           Phillips         37         20.8           Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9	Mississippi		
Nevada         16         13.7           Newton         2         4.2           Ouachita         38         21.0           Perry         3         6.4           Phillips         37         20.8           Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0	Monroe		
Newton         2         4.2           Ouachita         38         21.0           Perry         3         6.4           Phillips         37         20.8           Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0	Montgomery	4	5.8
Ouachita         38         21.0           Perry         3         6.4           Phillips         37         20.8           Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Nevada	16	13.7
Perry 3 6.4 Phillips 37 20.8 Pike 7 8.6 Poinsett 19 9.6 Polk 10 8.1 Pope 46 11.8 Prairie 13 30.2 Pulaski 178 20.7 Randolph 5 7.2 Saline 27 12.6 Scott 9 8.3 Searcy 1 2.0 Sebastian 73 15.0 Sevier 20 9.8 Sharp 10 9.5 St. Francis 9 15.8 Stone 2 3.3 Union 49 18.4 Van Buren 1 1.1 Washington 58 14.9 White 29 11.0 Woodruff 2 25.0 Yell 6 5.8	Newton	2	4.2
Phillips         37         20.8           Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Ouachita	38	21.0
Pike         7         8.6           Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Perry	3	6.4
Poinsett         19         9.6           Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Phillips	37	20.8
Polk         10         8.1           Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Pike	7	8.6
Pope         46         11.8           Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Poinsett	19	9.6
Prairie         13         30.2           Pulaski         178         20.7           Randolph         5         7.2           Saline         27         12.6           Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Polk	10	8.1
Pulaski       178       20.7         Randolph       5       7.2         Saline       27       12.6         Scott       9       8.3         Searcy       1       2.0         Sebastian       73       15.0         Sevier       20       9.8         Sharp       10       9.5         St. Francis       9       15.8         Stone       2       3.3         Union       49       18.4         Van Buren       1       1.1         Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	Pope	46	11.8
Randolph       5       7.2         Saline       27       12.6         Scott       9       8.3         Searcy       1       2.0         Sebastian       73       15.0         Sevier       20       9.8         Sharp       10       9.5         St. Francis       9       15.8         Stone       2       3.3         Union       49       18.4         Van Buren       1       1.1         Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	Prairie	13	30.2
Saline       27       12.6         Scott       9       8.3         Searcy       1       2.0         Sebastian       73       15.0         Sevier       20       9.8         Sharp       10       9.5         St. Francis       9       15.8         Stone       2       3.3         Union       49       18.4         Van Buren       1       1.1         Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	Pulaski	178	20.7
Scott         9         8.3           Searcy         1         2.0           Sebastian         73         15.0           Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Randolph	5	7.2
Searcy       1       2.0         Sebastian       73       15.0         Sevier       20       9.8         Sharp       10       9.5         St. Francis       9       15.8         Stone       2       3.3         Union       49       18.4         Van Buren       1       1.1         Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	Saline	27	12.6
Sebastian       73       15.0         Sevier       20       9.8         Sharp       10       9.5         St. Francis       9       15.8         Stone       2       3.3         Union       49       18.4         Van Buren       1       1.1         Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	Scott	9	8.3
Sevier         20         9.8           Sharp         10         9.5           St. Francis         9         15.8           Stone         2         3.3           Union         49         18.4           Van Buren         1         1.1           Washington         58         14.9           White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Searcy	1	2.0
Sharp       10       9.5         St. Francis       9       15.8         Stone       2       3.3         Union       49       18.4         Van Buren       1       1.1         Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	Sebastian	73	15.0
St. Francis     9     15.8       Stone     2     3.3       Union     49     18.4       Van Buren     1     1.1       Washington     58     14.9       White     29     11.0       Woodruff     2     25.0       Yell     6     5.8	Sevier	20	9.8
Stone       2       3.3         Union       49       18.4         Van Buren       1       1.1         Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	Sharp	10	9.5
Union       49       18.4         Van Buren       1       1.1         Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	St. Francis	9	15.8
Van Buren       1       1.1         Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	Stone	2	3.3
Washington       58       14.9         White       29       11.0         Woodruff       2       25.0         Yell       6       5.8	Union	49	18.4
White         29         11.0           Woodruff         2         25.0           Yell         6         5.8	Van Buren	1	1.1
Woodruff         2         25.0           Yell         6         5.8	Washington	58	14.9
Yell 6 5.8	White	29	11.0
Tell	Woodruff	2	25.0
STATE 2,032 15.2	Yell	6	5.8
	STATE	2,032	15.2

Source: ADH Health Statistics Branch

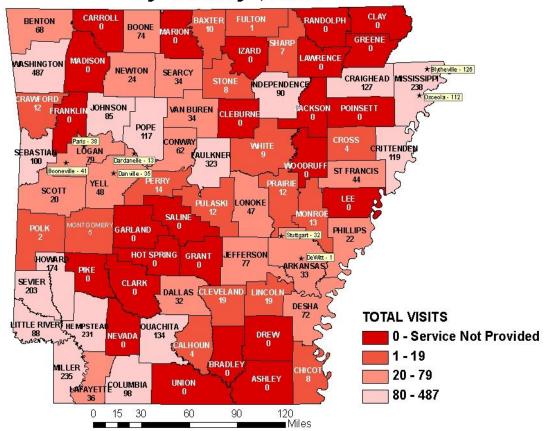
Attachment ZZ. Birth Rates to Adolescents by Age of Mother, Arkansas 2000-2008



Source: Birth Certificate Files, Health Statistics Branch, Arkansas Department of Health

#### **Attachment AAA**

# Initial Prenatal Visits to ADH Clinics by County\*, 2009



<sup>\*</sup>Four counties had more than one Local Health Unit offering prenatal services in 2009. City locations and number of visits are separately indicated in those counties. Source: Center for Public Health Practice, Epidemiology and Health Statistics Branches

### Attachment BBB. Percent Births with Late or No Prenatal Care (PNC), 2004-2008

Country	Total Divide	Births With	Percent with Late PNC	Births with	Percent with
County	Total Births	Late PNC	(including no PNC)	No PNC	No PNC
Arkansas	1,259	147	11.7	33	2.6
Ashley	1,438	222	15.4	8	0.6
Baxter	1,976	326	16.5	10	0.5
Benton	15,840	3,482	22.0	219	1.4
Boone	2,223	352	15.8	10	0.4
Bradley	874	112	12.8	7	0.8
Calhoun	271	75	27.7	9	3.3
Carroll	1,725	462	26.8	24	1.4
Chicot	941	158	16.8	8	0.9
Clark	1,460	332	22.7	10	0.7
Clay	904	142	15.7	9	1.0
Cleburne	1,368	195	14.3	7	0.5
Cleveland	550	85	15.5	9	1.6
Columbia	1,617	429	26.5	15	0.9
Conway	1,352	135	10.0	6	0.4
Craighead	6,673	1,524	22.8	138	2.1
Crawford	3,977	1,233	31.0	106	2.7
Crittenden	4,483	1,710	38.1	112	2.5
Cross	1,239	167	13.5	14	1.1
Dallas	519	148	28.5	4	0.8
Desha	1,039	194	18.7	14	1.3
Drew	1,270	163	12.8	8	0.6
Faulkner	7,286	411	5.6	58	0.8
Franklin	1,134	258	22.8	9	0.8
Fulton	568	120	21.1	4	0.7
Garland	5,774	1,131	19.6	45	0.8
Grant	1,031	126	12.2	7	0.7
Greene	2,780	416	15.0	43	1.5
Hempstead	1,717	369	21.5	17	1.0
Hot Spring	1,919	402	20.9	18	0.9
Howard	1,066	222	20.8	4	0.4
Independence	2,446	597	24.4	30	1.2
Izard	681	191	28.0	4	0.6
Jackson	1,120	146	13.0	14	1.3
Jefferson	5,687	1,706	30.0	179	3.1
Johnson	1,814	287	15.8	10	0.6
Lafayette	456	121	26.5	6	1.3
Lawrence	1,050	165	15.7	5	0.5
Lee	637	120	18.8	9	1.4

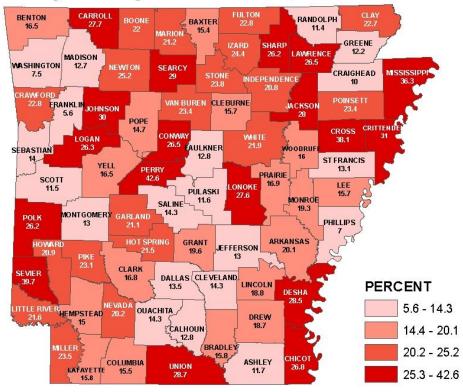
Attachment BBB. Percent Births with Late or No Prenatal Care (PNC), 2004-2008 cont.

		Births With	Percent with Late PNC		Percent with
County	Total Births	Late PNC	(including no PNC)	No PNC	No PNC
Lincoln	681	147	21.6	12	1.8
Little River	756	199	26.3	5	0.7
Logan	1,378	380	27.6	14	1.0
Lonoke	4,479	568	12.7	40	0.9
Madison	981	208	21.2	20	2.0
Marion	731	172	23.5	6	0.8
Miller	3,190	1,159	36.3	41	1.3
Mississippi	3,879	748	19.3	47	1.2
Monroe	576	75	13.0	10	1.7
Montgomery	499	101	20.2	3	0.6
Nevada	652	164	25.2	5	0.8
Newton	414	59	14.3	2	0.5
Ouachita	1,845	786	42.6	44	2.4
Perry	604	42	7.0	3	0.5
Phillips	1,991	460	23.1	40	2.0
Pike	552	129	23.4	5	0.9
Poinsett	1,811	475	26.2	53	2.9
Polk	1,302	192	14.7	9	0.7
Pope	4,082	689	16.9	22	0.5
Prairie	475	55	11.6	7	1.5
Pulaski	29,588	3,369	11.4	563	1.9
Randolph	1,084	142	13.1	8	0.7
St. Francis	2,054	294	14.3	17	0.8
Saline	5,583	643	11.5	65	1.2
Scott	713	207	29.0	17	2.4
Searcy	450	63	14.0	1	0.2
Sebastian	9,427	3,742	39.7	491	5.2
Sevier	1,543	404	26.2	16	1.0
Sharp	961	229	23.8	11	1.1
Stone	623	179	28.7	11	1.8
Union	2,993	699	23.4	43	1.4
Van Buren	883	66	7.5	7	0.8
Washington	16,387	3,585	21.9	569	3.5
White County	5,021	803	16.0	57	1.1
Woodruff	484	80	16.5	5	1.0
Yell	1,743	427	24.5	13	0.7
STATE Total	200,579	40,321	20.1	3,524	1.8

Source: ADH Health Statistics Branch

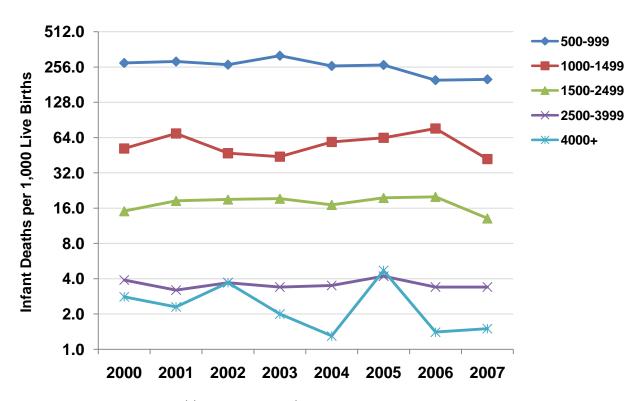
### **Attachment CCC**

# Births With Late or No Prenatal Care by County of Residence, 2004-2008



Source: Arkansas Department of Health, Center for Public Health Practice, Health Statistics Branch

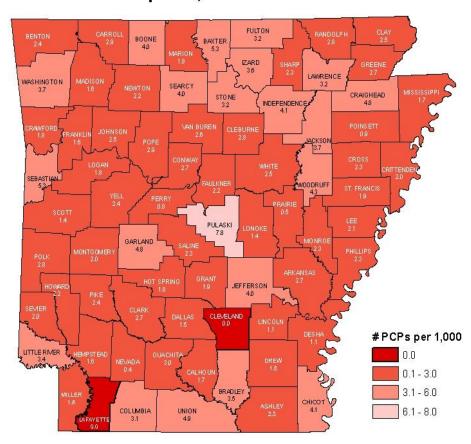
# Attachment DDD. Birth Weight Specific Infant Mortality Rate, Arkansas 2000-2007



Source: ADH Health Statistics Branch

### **Attachment EEE**

# Arkansas Primary Care Physicians 2008 Population Ratios PCP's per 1,000 0-18 Year Olds



This map represents the number of Primary Care Physicians per 1,000 children in each Arkansas county. Data originates from the Health Professions Manpower Assessment conducted annually by the Arkansas Department of Health, Center for Public Health Practice, Health Statistics Branch. Population estimates are provided by the University of Arkansas at Little Rock, Institute for Economic Advancement.

### **Attachment FFF. Child Health Direct Service Capacity by County**

	ı			<u>,                                      </u>	ı	I
County	PCP's <sup>a</sup>	Pediatricians <sup>a</sup>	EPSDT's 2009 (PCPs) <sup>d</sup>	Dentists <sup>a</sup>	CHC's <sup>b</sup>	AHEC's <sup>c</sup>
Arkansas	13	0	1,162	4		
Ashley	13	1	1,924	7	2	
Baxter	44	2	2,258	17		1
Benton	140	16	12,078	85	2	
Boone	35	3	2,131	18		
Bradley	10	0	1,092	4		
Calhoun	2	0	285	0	1	
Carroll	19	0	1,504	8		
Chicot	13	0	791	4	2	
Clark	16	4	1,899	8	1	
Clay	9	0	981	7	1	
Cleburne	15	0	1,295	11	1	
Cleveland	0	0	446	0	1	
Columbia	19	1	1,774	7		
Conway	14	0	1,846	4		
Craighead	118	15	9,662	47	2	1
Crawford	29	2	4,686	12		
Crittenden	32	6	6,638	27	1	
Cross	11	1	1,606	6		
Dallas	3	0	549	2		
Desha	4	0	978	4		
Drew	9	0	2,137	7		
Faulkner	65	15	7,210	42		
Franklin	7	0	1,342	3		
Fulton	8	0	868	2		
Garland	105	15	9,029	56		
Grant	8	0	979	4		
Greene	28	3	4,516	11		
Hempstead	10	3	2,936	5	1	
Hot Spring	14	0	2,924	5		
Howard	8	0	1,219	3		
Independence	35	2	3,070	14		1
Izard	10	0	641	6		
Jackson	15	2	1,472	5	2	
Jefferson	84	10	6,001	24	3	1
Johnson	16	0	2,385	7		
Lafayette	0	0	535	0	1	
Lawrence	13	0	1,480	5	1	
Lee	5	0	1,160	1	1	

**Attachment FFF. Child Health Direct Service Capacity by County (cont.)** 

Accountence			service capacity by co			
County	PCP's <sup>a</sup>	Pediatricians <sup>a</sup>	EPSDT's 2009 (PCPs) <sup>d</sup>	Dentists <sup>a</sup>	CHC's <sup>b</sup>	AHEC's <sup>c</sup>
Lincoln	3	0	512	0		
Little River	10	0	916	4		
Logan	10	0	1,473	6	1	
Lonoke	25	1	3,643	18	1	
Madison	6	0	872	3	1	
Marion	6	0	787	3		
Miller	20	3	3,552	11		1
Mississippi	23	3	6,744	13		
Monroe	5	0	760	2	2	
Montgomery	4	2	602	1	1	
Nevada	1	0	778	1		
Newton	4	1	386	0	1	
Ouachita	19	0	2,308	7	1	
Perry	2	0	695	1		
Phillips	16	1	3,977	4	1	1
Pike	6	0	795	3		
Poinsett	6	0	2,593	3	1	
Polk	14	2	1,937	6	1	
Pope	45	7	4,140	23		
Prairie	1	0	451	1	2	
Pulaski	788	217	31,933	255	1	
Randolph	12	1	1,455	6	1	
Saline	55	10	5,626	24		
Scott	4	0	595	3		
Searcy	7	1	439	1	1	
Sebastian	175	27	10,961	76	2	1
Sevier	10	1	2,597	3		
Sharp	9	0	1,441	2		
St. Francis	14	2	3,830	7	2	
Stone	8	0	1,043	3		
Union	53	7	3,696	19	1	1
Van Buren	9	1	930	6	2	
Washington	202	30	13,995	92	1	1
White	48	8	4,954	28	3	
Woodruff	8	0	486	1	3	
		i				
Yell	14	0	1,518	5		

<sup>&</sup>lt;sup>a</sup> No. of providers by county of residence. Source: ADH Health Statistics Branch

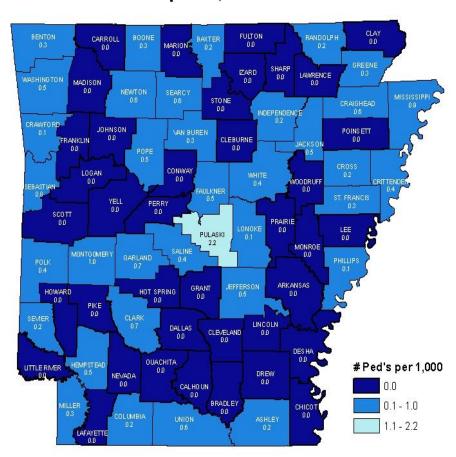
<sup>&</sup>lt;sup>b</sup> CHC's = Community Health Centers. Source: http://www.chc-ar.org

<sup>&</sup>lt;sup>c</sup> AHEC's = Area Health Education Centers. Source: http://www.uams.edu

<sup>&</sup>lt;sup>d</sup> EPSDT = Early and Periodic Screening, Diagnosis and Treatment. Source: AR DHS Div. of Medical Services

### Attachment GGG

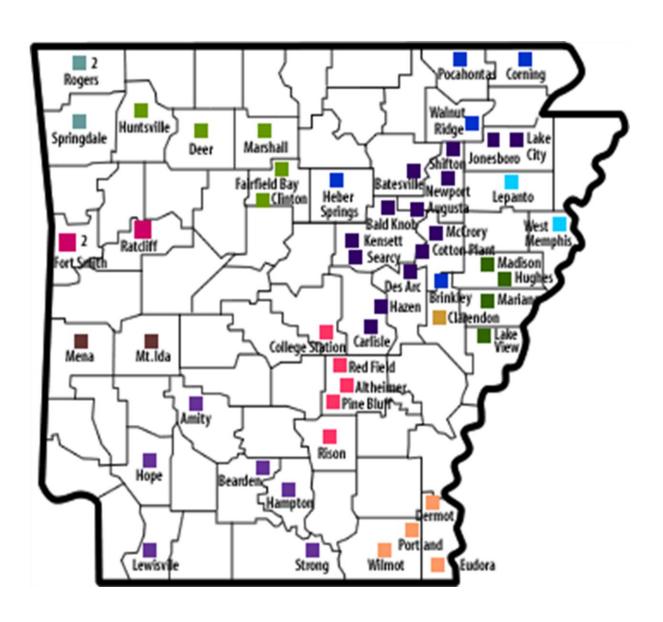
# Arkansas Pediatricians 2008 Population Ratios Pediatricians per 1,000 0 - 18 Year Olds



This map represents the number of Pediatricians per 1,000 children in each Arkansas county, Data originates from the Health Professions Manpower Assessment conducted annually by the Arkansas Department of Health, Center for Public Health Practice, Health Statistics Branch. Population estimates are provided by the University of Arkansas at Little Rock, Institute for Economic Advancement.

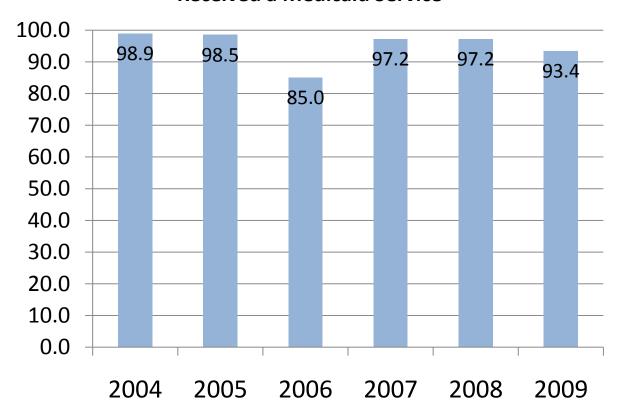
### **Attachment HHH**

## **Community Health Centers**



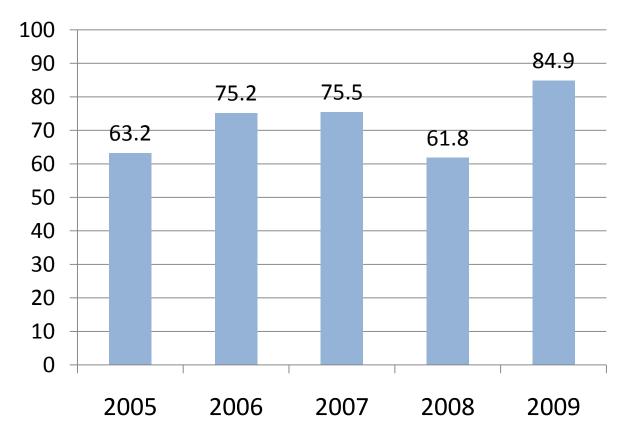
Source: <a href="http://www.chc-ar.org">http://www.chc-ar.org</a>

Attachment III. % Medicaid-Enrolled Children Who Received a Medicaid Service



Source: DHS Division of Medical Services

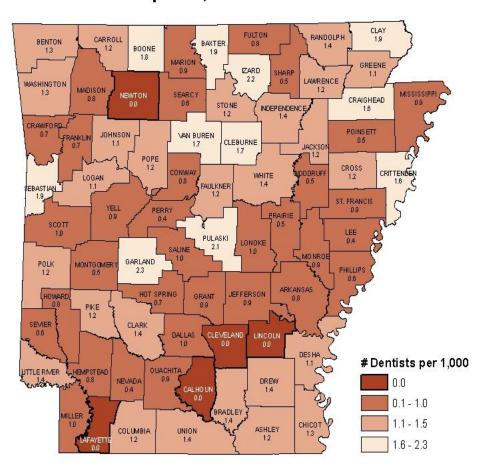
Attachment JJJ. % Medicaid Enrollees <1 Year Who Received at Least One Periodic Screen



Source: DHS Division of Medical Services

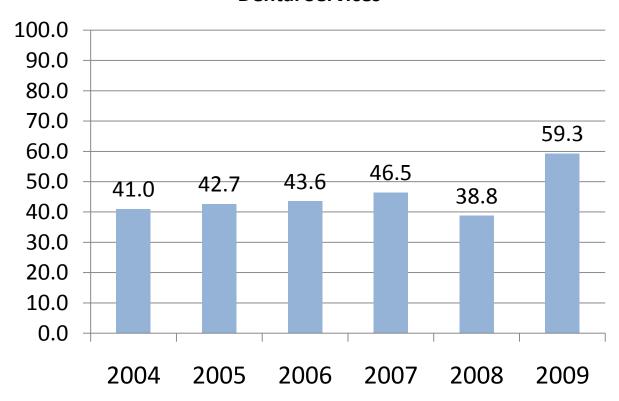
### Attachment KKK

# General & Pediatric Dentists 2008 Population Ratios Dentists per 1,000 0-18 Year Olds



This map represents the number of Dentists per 1,000 children in each Arkansas county. Data originates from the Health Professions Manpower Assessment conducted annually by the Arkansas Department of Health, Center for Public Health Practice, Health Statistics Branch. Population estimates are provided by the University of Arkansas at Little Rock, Institute for Economic Advancement.

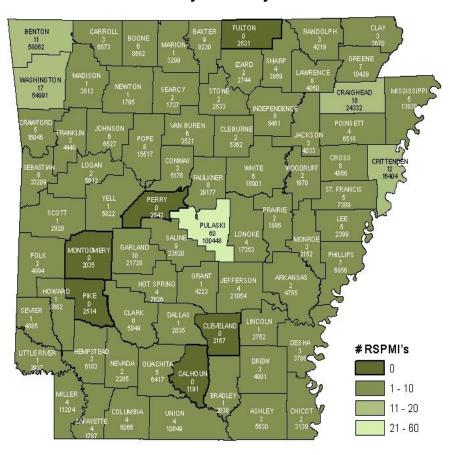
# Attachment LLL. % Medicaid Enrollees (EPSDT Eligible) Aged 6-9 Who Received Any Dental Services



Source: DHS Division of Medical Services

## **Attachment MMM**

# Mental & Behavioral Health Sites (RSPMI's) 2008 Number of Sites & 0-18 Population by County



This map represents the number of Mental/Behavioral Health sites in each Arkansas County. Also listed is each county's population of 0-18 year olds. Population estimates were calculated using data provided by the University of Arkansas at Little Rock, Institute for Economic Advancement. RSPMI data was provided by the Arkansas Department of Human Services, Division of Behavioral Health Services.

## Attachment OOO. Child Health Enabling Services by County

County	WIC 0-4 served 2008 <sup>a</sup>	% 0-4 served by WIC <sup>b</sup>	Health Conn. PCP assignments <sup>c</sup>	Health Connections 0-18 dental appt's <sup>c</sup>
Arkansas	809	67.3%	110	26
Ashley	1,013	75.0%	132	5
Baxter	1,338	63.8%	559	0
Benton	6,738	40.9%	5195	97
Boone	1,421	63.4%	397	8
Bradley	672	83.1%	61	0
Calhoun	204	75.0%	26	0
Carroll	977	55.1%	255	1
Chicot	775	95.9%	31	3
Clark	886	60.8%	94	0
Clay	653	73.0%	96	2
Cleburne	777	57.9%	175	3
Cleveland	393	73.3%	25	0
Columbia	983	65.5%	179	4
Conway	848	63.8%	72	5
Craighead	3,377	51.7%	2759	49
Crawford	1,977	49.2%	1417	12
Crittenden	2,669	60.7%	663	9
Cross	789	65.5%	75	0
Dallas	470	99.4%	34	0
Desha	923	88.5%	80	4
Drew	779	65.7%	31	1
Faulkner	2,558	34.4%	1237	128
Franklin	634	58.7%	142	7
Fulton	398	68.0%	42	0
Garland	3,050	51.3%	697	3
Grant	625	64.2%	90	2
Greene	1,764	62.7%	764	6
Hempstead	1,310	80.4%	277	23
Hot Spring	965	51.3%	252	3
Howard	934	95.7%	186	3
Independence	1,647	70.0%	333	4
Izard	442	61.5%	38	0
Jackson	753	68.6%	106	0
Jefferson	3,038	54.5%	343	61
Johnson	1,427	75.0%	270	1
Lafayette	368	92.5%	82	11
Lawrence	744	70.0%	121	28
Lee	599	100.0%	44	0

Attachment OOO. Child Health Enabling Services by County (cont.)

	WIC 0-4 served,	% 0-4 served by	Health Conn. PCP	Health Connections
County	2008 <sup>a</sup>	WIC, 2008 <sup>b</sup>	assignments <sup>c</sup>	0-18 dental appt's <sup>c</sup>
Lincoln	489	72.3%	60	0
Little River	506	78.3%	287	2
Logan	1,206	87.7%	172	21
Lonoke	1,756	37.9%	1368	10
Madison	695	71.9%	287	15
Marion	499	67.3%	146	0
Miller	1,793	66.3%	1809	13
Mississippi	2,811	74.3%	841	7
Monroe	573	100.0%	22	0
Montgomery	471	93.5%	33	0
Nevada	454	71.9%	34	8
Newton	342	80.4%	28	0
Ouachita	1,256	72.7%	54	0
Perry	367	61.5%	86	2
Phillips	1,825	96.4%	79	2
Pike	477	85.8%	56	2
Poinsett	1,638	96.4%	398	14
Polk	873	67.4%	154	2
Pope	2,240	56.9%	1624	5
Prairie	331	78.1%	75	1
Pulaski	12,015	41.0%	6398	76
Randolph	710	67.3%	135	20
Saline	2,557	43.8%	1298	2
Scott	598	78.5%	64	0
Searcy	387	86.6%	69	1
Sebastian	5,303	55.9%	3431	20
Sevier	1,295	90.2%	294	13
Sharp	721	76.3%	88	1
St. Francis	1,496	74.4%	194	0
Stone	557	87.7%	33	0
Union	1,680	58.4%	434	24
Van Buren	710	77.8%	83	0
Washington	6,754	41.0%	8973	183
White	2,792	56.5%	515	44
Woodruff	300	67.1%	26	0
Yell	1,427	85.3%	366	0
STATE	110,631	55.6%	47504	997

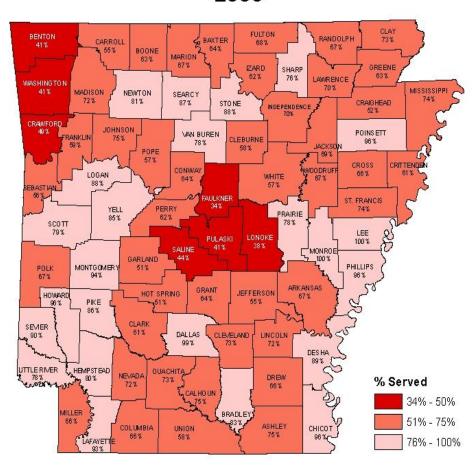
<sup>&</sup>lt;sup>a</sup> Source: ADH WIC Program

b WIC recipients as percentage of 0-4 population (pop. estimates from UALR)

<sup>&</sup>lt;sup>c</sup> Source: ADH Health Connections Section; primary care physician (PCP) assignments include recipients of all ages

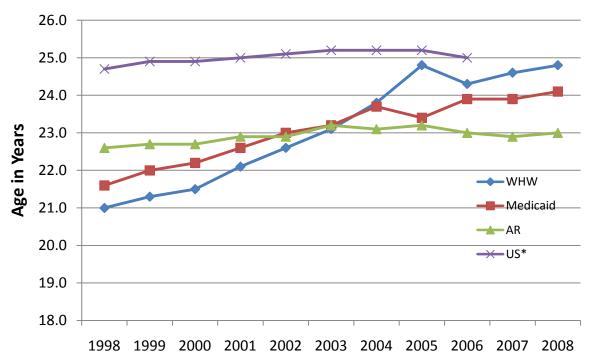
### **Attachment PPP**

# Percentage of Children Ages 0-4 Served by WIC 2008



This map repersents the percentage of 0-4 year olds receiving WIC services in each county. Population estimates were claculated using population data provided by the University of Arkansas at Little Rock, Institute for Economic Advancement

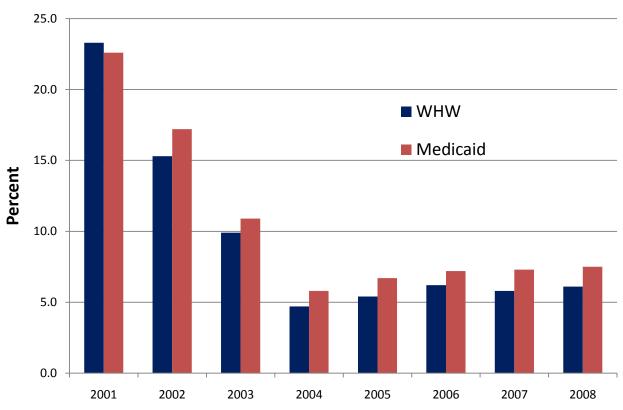
# Attachment QQQ. Women's Health Waiver Impact: Mean Age at First Birth, 1998-2008



Source: Evaluation of the Women's Health Waiver prepared by the Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences

<sup>\* 2007</sup> and 2008 US data not available

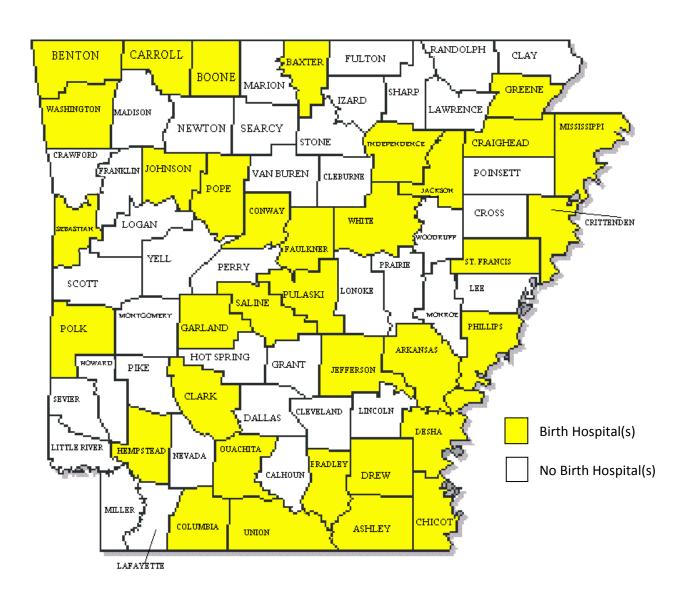
# Attachment RRR. Women's Health Waiver (WHW) Program Impact: Birth Interval Within 12 Months



Source: Evaluation of the Women's Health Waiver prepared by the Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences

### **Attachment SSS**

# Counties with at Least One Birth Hospital (Newborn Hearing and Metabolic Screening)



Source: ADH Health Facilities Section

## Attachment TTT. Child Health Population-Based Services by County

County	Immun. given, ADH Clinics, CY2009 <sup>a</sup>	SIDS Autopsies CY2007 <sup>b</sup>	Occurrent births CY2009 <sup>c</sup>	Newborn screens CY2009 <sup>c</sup>
Arkansas	5,685		235	226
Ashley	8,717	1	181	180
Baxter	6,776		737	729
Benton	19,647	4	2,960	2,920
Boone	10,533		593	581
Bradley	3,696		189	186
Calhoun	1,231		0	0
Carroll	6,715	1	233	219
Chicot	4,619	2	156	149
Clark	1,907		200	198
Clay	2,383		1	0
Cleburne	2,642		1	1
Cleveland	2,048		0	0
Columbia	7,933		254	253
Conway	1,624		98	97
Craighead	11,717	5	2,191	2,173
Crawford	9,555		4	2
Crittenden	192	2	699	660
Cross	2,788	1	0	0
Dallas	2,913		0	0
Desha	5,524	2	100	98
Drew	5,230		216	212
Faulkner	4,886	1	1,773	1,760
Franklin	4,867		2	0
Fulton	1,928	1	2	1
Garland	4,135	1	1,677	1,659
Grant	2,679		0	0
Greene	8,839	3	539	534
Hempstead	6,730		267	267
Hot Spring	1,613		3	2
Howard	4,940		0	0
Independence	5,708	3	722	721
Izard	2,069		1	1
Jackson	3,112		433	432
Jefferson	5,570	3	1,277	1,265
Johnson	6,920		491	490
Lafayette	5,635		0	0
Lawrence	2,359		2	2
Lee	1,813		0	0

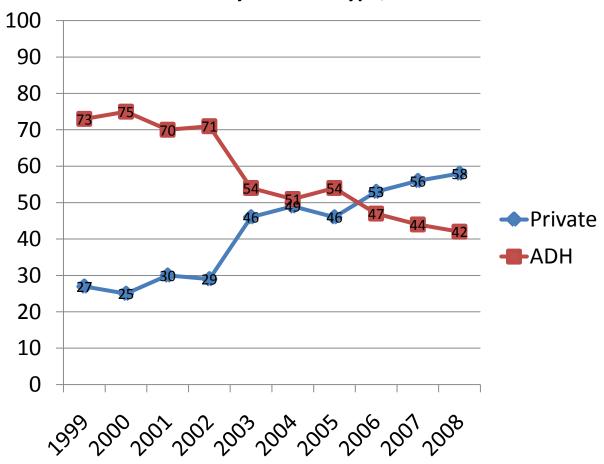
Attachment TTT. Child Health Population-Based Services by County (cont.)

Attachment	i i. Child Health Popu	iation-based serv	rices by County (con	·· <i>j</i>
	Immun. given, ADH	SIDS Autopsies	Occurrent births	Newborn screens
County	Clinics, CY2009	CY2007 <sup>b</sup>	CY2009 <sup>c</sup>	CY2009 <sup>c</sup>
Lincoln	2,781		0	0
Little River	2,697		0	0
Logan	8,134		0	0
Lonoke	5,732	1	3	2
Madison	3,481		8	5
Marion	2,724		2	2
Miller	4,338		0	0
Mississippi	10,868	1	444	439
Monroe	2,062		0	0
Montgomery	1,706	1	3	3
Nevada	1,928		1	1
Newton	2,159		4	4
Ouachita	4,385		325	322
Perry	1,271		0	0
Phillips	3,781	1	293	288
Pike	2,312		0	0
Poinsett	5,841	2	0	0
Polk	4,588		433	430
Pope	7,233	5	992	983
Prairie	1,517		0	0
Pulaski	21,253	5	9,171	9,010
Randolph	2,391		5	2
Saline	5,499	3	391	383
Scott	3,539		1	0
Searcy	1,155		2	1
Sebastian	28,984	4	3,653	3,628
Sevier	5,893		14	12
Sharp	3,475		1	1
St. Francis	3,008		767	749
Stone	3,141		5	4
Union	11,316	1	706	694
Van Buren	2,423		4	4
Washington	20,111	2	3,978	3,903
White	10,704	1	1,282	1,274
Woodruff	834	_	1	1
Yell	2,793		1	1
STATE	403,935	57	38,727	38,164
	/Immunizations Section			1 22,10.

<sup>&</sup>lt;sup>a</sup> Source: ADH CD/Immunizations Section <sup>b</sup> Source: ADH SIDS Program

<sup>&</sup>lt;sup>c</sup> Source: ADH Health Statistics Branch

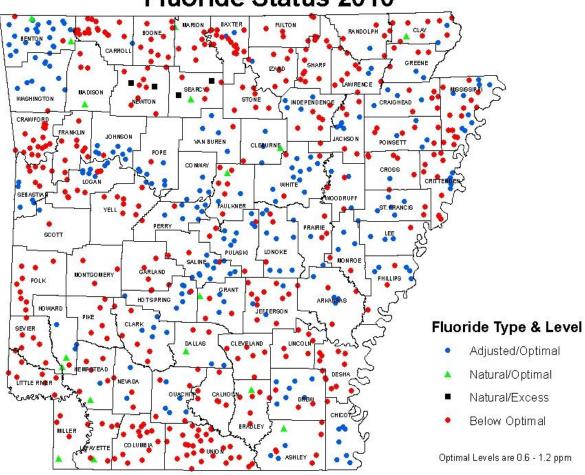
# Attachment UUU. % of All Immunizations Given to Children 0-19 by Provider Type, 1999-2008



Source: ADH CD/Immunizations Section

### Attachment VVV

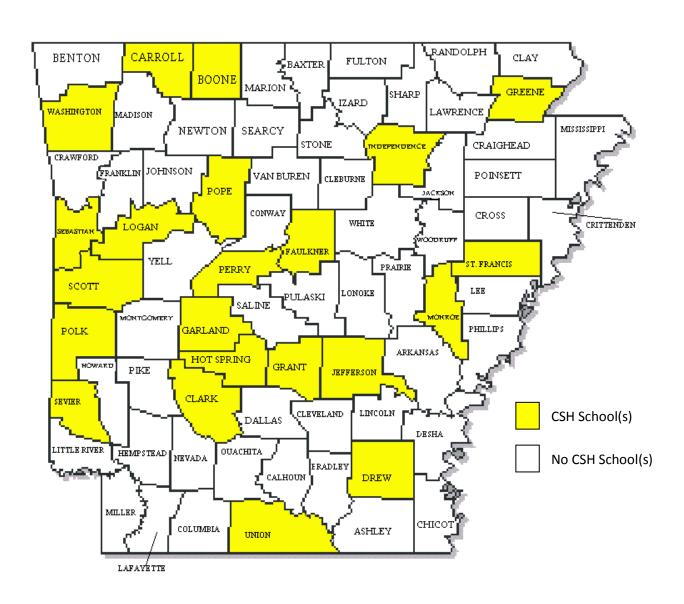
# Arkansas Community Water Systems Fluoride Status 2010



Source: ADH Office of Oral Health

### **Attachment WWW**

# Counties with at Least One School District Involved in Coordinated School Health, 2008-09



Source: Coordinated School Health Program

## Attachment XXX. Child Health Infrastructure-Building Services by County

County	Coordinated School Health <sup>a</sup>	CASSP <sup>b</sup>
Arkansas		•RC
Ashley		•
Baxter		•
Benton		•
Boone	•	•
Bradley		•
Calhoun		•
Carroll	•	•
Chicot		•
Clark	•	•
Clay		•
Cleburne		•
Cleveland		•
Columbia		•
Conway		•RC
Craighead		•RC
Crawford		•
Crittenden		•
Cross		•
Dallas		•
Desha		•
Drew	•	•RC
Faulkner	•	•
Franklin		•
Fulton		•
Garland	•	•RC
Grant	•	•
Greene	•	•
Hempstead		•
Hot Spring	•	•
Howard		•
Independence	•	•RC
Izard		•
Jackson		•
Jefferson	•	•RC
Johnson		•
Lafayette		•
Lawrence		•
Lee		•

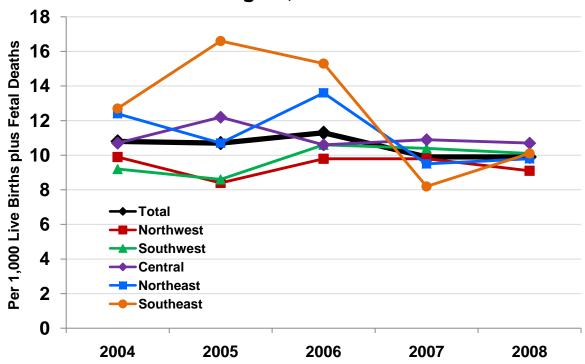
Attachment XXX. Child Health Infrastructure-Building Services by County

County	Coordinated School Health <sup>a</sup>	CASSP <sup>b</sup>
Lincoln		•
Little River		•
Logan	•	•
Lonoke		•
Madison		•
Marion		•RC
Miller		•RC
Mississippi		•
Monroe	•	•
Montgomery		•
Nevada		•
Newton		•
Ouachita		•
Perry	•	•
Phillips	•	•
Pike		•
Poinsett		•
Polk	•	•
Pope	•	•
Prairie		•
Pulaski		•RC(2)
Randolph		•
Saline		•RC
Scott	•	•
Searcy		•
Sebastian	•	•RC
Sevier	•	•
Sharp		•
St. Francis	•	•RC
Stone		•
Union	•	•RC
Van Buren		•
Washington	•	•RC
White		•
Woodruff		•
Yell		•

<sup>&</sup>lt;sup>a</sup> Source: AR Coordinated School Health Program

<sup>&</sup>lt;sup>b</sup> CASSP = Child and Adolescent Service System Project (for mental/behavioral health services) RC = Regional CASSP Coordinator Source: DHS Division of Behavioral Health Services

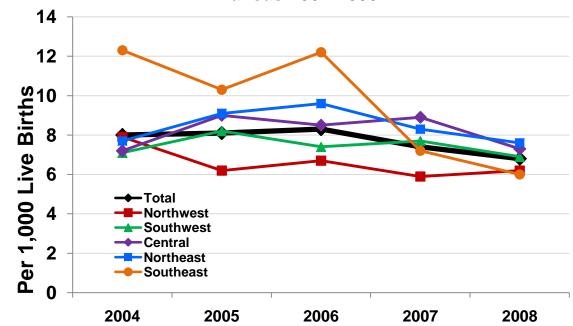
# Attachment YYY. Perinatal Mortality by ADH Public Health Region, Arkansas 2004-2008



Source: Linked Birth/Infant Death Files, Health Statistics Branch, Arkansas Department of Health Perinatal mortality rate is defined as deaths to infants less than 7 days plus fetal deaths divided by births plus fetal deaths.

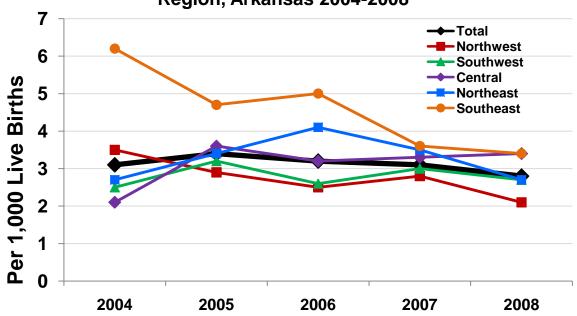
### **Attachment ZZZ**





Source: Linked Birth/Infant Death Files, Health Statistics Branch, Arkansas Department of Health

# Post-Neonatal Mortality by ADH Public Health Region, Arkansas 2004-2008



Source: Linked Birth/Infant Death Files, Health Statistics Branch, Arkansas Department of Health